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## **Applicant Reactions to a Situational Judgment Test used for Selection into Initial Teacher Training**

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# **Applicant Reactions to a Situational Judgment Test used for Selection into Initial Teacher Training**

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## **Abstract**

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We considered applicants' perceptions of the use of a pilot situational judgment test (SJT) designed for selection into primary and secondary teacher training programs in the UK. Quantitative and qualitative data were collected from 304 applicants (73% female) to two postgraduate (PGCE) training programs in the 2013-2014 application cycle. Participants were asked to provide feedback on the content of the SJTs and on the appropriateness of the tests for selection into teacher training. Results from the rating scales showed that most of the applicants (76.7%) found the content and format of the pilot selection tool favourable. Results from open-ended questions suggested that applicants were aware of issues of procedural justice and fairness in selection for teacher training, with a recommendation that separate selection tests should be created for primary and secondary applicants.

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**Keywords:** teacher selection, situational judgment tests, teacher education, non-cognitive attributes

# Reacciones de candidatos ante una Prueba de Juicio Situacional en la Selección en Formación del Profesorado

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## Resumen

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Consideramos las percepciones de los candidatos ante el uso de una prueba piloto de juicio situacional (SJT) diseñada para la selección en los programas de formación del profesorado de primaria y secundaria en el Reino Unido. Se recogieron datos cuantitativos y cualitativos de 304 candidatos (73% mujeres) de dos programas de formación de posgrado (PGCE) en el ciclo de aplicación 2013-2014. Se pidieron comentarios a los participantes sobre el contenido de los SJT y sobre la adecuación de las pruebas para la selección en la formación del profesorado. Los resultados de las escalas de valoración mostraron que la mayoría de los candidatos (76.7%) consideraron favorables el contenido y formato de la herramienta de selección piloto. Los resultados de las preguntas abiertas sugerían que los candidatos tenían conocimiento de las cuestiones de justicia procedimental e imparcialidad en el proceso de selección, con la recomendación de que se deberían crear pruebas de selección diferenciadas para los candidatos de primaria y secundaria.

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**Palabras clave:** selección del profesorado, pruebas de juicio situacional, educación del profesorado, atributos no-cognitivos



**A**lthough the claim is sometimes made that effective teachers are made, not born (e.g., Marzano, Frontier, & Livingston, 2011), systematic differences in teaching effectiveness within cohorts of new teachers emerge early and remain intact through at least the first five years of teaching (Atteberry, Loeb, & Wyckoff, 2013). Teacher training providers need accurate, reliable, and evidence-based methods to select prospective teachers because effective teachers make a long-term impact on student academic achievement and well-being (Hanushek & Rivkin, 2012). The current article describes applicant reactions to a SJT that was used in the selection process for primary and secondary teacher training programs in the UK. In this study, applicants for teacher training programs completed a 35-item situational judgment test (SJT)—a scenario-based measurement method designed to assess individuals’ judgment in contextualized workplace settings (e.g., Ryan & Ployhart, 2014)—designed to measure the *non-cognitive*<sup>1</sup> attributes of prospective teachers.

Our focus in this article is on applicants’ perception of the relevance and fairness of the use of SJTs as part of the selection process for entry into teacher training. We asked, *What are teacher trainees’ reactions to the SJT as a selection tool for entry into primary and secondary teacher training programs?* Using a theoretical framework of organizational justice (e.g., Gilliland, 1993; Patterson, Zibarras, Carr, Irish, & Gregory, 2011), we examined applicants’ reactions to the process of completing a pilot SJT for selection into teacher training. The results of the study provide a starting point for research that considers the selection process into teacher training from the applicants’ perspective, and allows researchers and training providers to consider the perceived and actual fairness of selection procedures.

### **Selection of Candidates for Teacher Training**

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<sup>1</sup> We use the phrase ‘non-cognitive attributes’ to refer to non-academic professional attributes such as resilience, empathy, teamwork, and integrity.

Education systems need valid selection procedures because selecting the right people to work as teachers is critical for a nation's educational, social, and economic well-being (Hanushek & Rivkin, 2012). Unfortunately, teacher selection (and selection for teacher training) practices are often ineffective and unsystematic (Barber & Mourshed, 2007; Staiger & Rockoff, 2010; House of Commons Education Committee, 2012), having received little attention from educational psychology researchers (e.g., Rutledge, Harris, Thompson, & Ingle, 2008), who in turn have been accused of 'irrelevance' with regards to education practice (Berliner, 2006). Policy-makers and practitioners have started to question the reliability and validity of the existing selection procedures, particularly since the selection process is time-consuming, resource-intensive, and dependent on the skill and intuition of the interviewers. For example, in April 2014, the Australian Government's Teacher Education Ministerial Advisory Group announced teacher quality as a top priority. By focusing on measurements that identify those best suited to the teaching profession, the advisory group aims to discover valid and reliable measures that address the importance of applicants' numeracy and literacy, as well as interpersonal skills and aptitude for teaching (Commonwealth of Australia, 2014). The quest to improve selection practices for teacher training is seen as a first step in improving teaching quality in a range of international contexts.

Identifying the necessary *cognitive* dimensions (e.g., subject area knowledge, reasoning ability, and literacy and numeracy skills) of prospective teachers is relatively straightforward, with school and university records, and numerous cognitive reasoning instruments widely available. However, assessing the essential *non-cognitive* attributes—interpersonal skills, motivational tendencies, and personality traits—shown to be crucial for successful teaching (Rimm-Kaufman & Hamre, 2010), is much more challenging to measure reliably. We are unaware of data on the predictive validity of prospective teacher selection practices, and we know little about the nature of what is being assessed, or how systematic these assessments might be. Calls to improve the teacher training candidate selection process and to identify these non-cognitive attributes have been made by national (e.g., House of Commons Education Committee, 2012) and international (e.g., OECD, 2005) education authorities, and have long been the *holy grail* of teacher selection research (Barr, 1952). In the UK alone, there are about

125,000 applications under consideration (April, 2014) with about 25,000 placements (Universities and Colleges Admissions Service, 2014), meaning that even modest improvements in the prediction of potential teacher effectiveness have the potential to show substantial long-term benefits for student outcomes (Hanushek & Rivkin, 2012).

Selecting individuals for teacher training is essentially a predictive research exercise, but current selection procedures have not benefited from a strong research base (Rutledge et al., 2008). However, recent advances in educational and organizational psychology provide new ways to understand teachers' non-cognitive attributes and selection procedures. Three recent research advances have changed the teacher candidate selection landscape. **First**, research on non-cognitive attributes of effective teachers has advanced substantially in the last decade, with educational psychology research focused on the psychological characteristics of effective teaching, such as tacit knowledge (Elliott, Stemler, Sternber, Grigorenko, & Hoffoman, 2011), teacher-student relatedness (Allen et al., 2013), and resilience (Beltman, Mansfield, & Price, 2011). In short, we know more about the non-cognitive attributes of successful teachers than ever before. **Second**, methodological advances in selection procedures in business settings have resulted in valid and reliable *implicit* approaches (as opposed to explicit or self-report approaches) for evaluating key psychological characteristics related to teaching effectiveness (Motowidlo & Beier, 2010; Schultheiss & Köllner, 2014). The emergence of SJTs present an evidence-based and innovative approach to assessing non-cognitive attributes of prospective teachers. **Third**, selection research in other professional fields, such as medical and dental training in the UK, shows robust predictive and incremental validities using SJTs, with direct relevance and application for selection into teacher training (e.g., Patterson, Ashworth, Mehra, & Falcon, 2012).

### **Situational Judgment Tests and Selection**

In conventional selection procedures, non-cognitive attributes are typically assessed *explicitly* through self-report personality tests or interviews, for example by asking, “Are you good at encouraging others?” The problem with self-reports in high-stakes situations is that respondents can potentially ‘fake’ their responses and portray themselves in the best possible light. By

using knowledge-based instructions, in contrast to behavioural-based instructions (i.e., “What *should* you do?” rather than “What *would* you do?”) in SJTs, Whetzel & McDaniel (2009) suggest that faking can be reduced. Knowledge-based instructions allow for the assessment of whether the candidate knows the best response to the situation.

In contrast, SJTs can measure *implicit* traits and attributes. Motowidlo, Hooper, and Jackson (2006) propose the concept of *implicit trait policy* (ITP), whereby psychological traits can be indirectly evaluated by asking an individual to judge the effectiveness of responses to situations designed to elicit targeted traits. Implicit trait policies are formed through a combination of a person’s experience and personal dispositions (e.g., inter-personal skills, motivational tendencies, and personality traits). In addition, theories of teachers’ tacit knowledge (e.g., Elliott et al., 2011; Grigorenko, Sternberg, & Strauss, 2006; Stemler, Elliot, Grigorenko, & Sternberg, 2006) suggest that teachers’ non-cognitive attributes may be learned implicitly through general socialization and life experiences (such as through early parental modelling) even before professional training commences, and are not transmitted directly through instruction.

SJTs can be used as one part of a selection system to complement a range of other information-rich sources, including tests of literacy and numeracy skills, reviews of academic background, in addition to individual or group interviews. A significant advantage of SJTs compared to other selection tools is that a large range of non-academic attributes can be tested reliably and efficiently as SJTs are machine-markable. SJTs are complementary to interviews as in interviews, although relatively resource intensive, candidate responses can be probed to elicit further relevant information. In selection for medicine in the UK and Belgium, for example, SJTs do not replace other selection processes, but rather complement other tools such as cognitive ability tests and interviews (Patterson, Tavabie et al., 2013). A further advantage of using SJTs for screening is that they show high levels of predictive and incremental validity, fewer inter-group differences (e.g., racial bias; Shultz & Zedeck, 2012), and are more economically feasible than other selection tools such as interviews of cognitive ability tests used for initial screening (Patterson, Tavabie et al., 2013). The placement of SJTs for selection depends on context-specific selection processes. In selection for medical training in the UK and Belgium, SJTs are used as one tool to screen

applicants for training placements, and were shown to be effective predictors of subsequent job performance with corrected validities from  $r = .30$  to  $r = .70$  (Patterson et al., 2012). Using SJTs for selection for teacher training may offer advantages in comparison to other selection tools, but to this point little research has explored how applicants might perceive the use of SJTs as part of the selection process.

### **Building a Pilot SJT for Teacher Selection**

We followed the work of Patterson and colleagues (e.g., Patterson, Lievens, Kerrin, Munro, & Irish, 2013) in building a 35-item pilot SJT for Initial Teacher Training (ITT) selection. The SJT scenarios are contextualized—set in a school setting—and were developed through discussions with expert teachers, usually ITT mentors working closely with trainee teachers, utilizing critical incident technique. We followed a series of development steps in 2013 by working closely with teacher subject matter experts (SMEs), school authorities, and university-based teacher education directors. The development steps represent a practice-based approach to domain and content development, resulting in three broad non-cognitive domains:

- *Empathy and Communication – Candidate demonstrates active listening, and engages in an open dialogue with both pupils and colleagues. Candidate seeks advice pro-actively and is responsive to both professional feedback and pupil’s needs. Candidate has the ability to adapt the style of communication and nature of dialogue appropriately.*
- *Organization and Planning – Candidate has the ability to manage competing priorities and display time management and personal organization skills effectively, using these skills to enhance positive learning interactions with pupils.*
- *Resilience and Adaptability – Candidate demonstrates the capability to remain resilient under pressure. Demonstrates adaptability, and an ability to change lessons and the sequence of lessons accordingly where required. Has an awareness of their level of competence and*

*the confidence to either seek assistance or make decisions independently, as appropriate. Is comfortable with challenges to own knowledge and is not disabled by constructive, critical feedback. Uses effective coping strategies.*

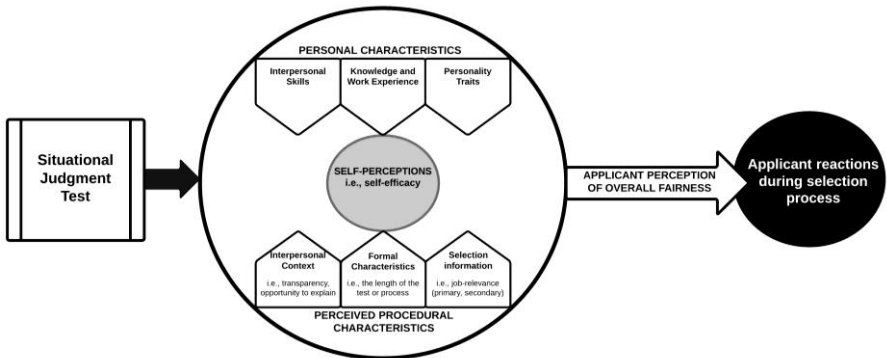
### **Organizational Justice Theory and Applicant Reactions to Selection Procedures**

Applicants' perceptions of fairness, feasibility, and reasonableness of selection processes are important for recruitment, ethical, and legal reasons (Gilliland, 1993). In addition, candidates' perceptions of the selection process influence their attraction to the organization (Walker et al., 2013). From a recruitment perspective, a teacher training program's ability to successfully recruit applicants is influenced by the perceptions of current and past applicants, who may share word-of-mouth accounts about the fairness of the selection process, ultimately influencing the success of recruiting the best possible candidates. From an ethical perspective, selection into teacher training must both be fair to applicants, and be perceived as fair by applicants. From a legal perspective, selection processes must not discriminate based on applicants' personal characteristics (e.g., ethnicity, socio-economic background).

Organizational justice theory refers to the perceived fairness of the selection procedures (procedural justice) and the fairness of the selection outcomes (distributive justice) (Hausknecht, Day, & Thomas, 2004; Patterson et al., 2011). The perceived fairness of recruitment activities is important for applicants' well-being but can also strongly influence future recruitment activities and organizational health. Patterson et al. (2011) suggest that applicants' perceptions of fairness are influenced by test characteristics (i.e., the qualities of the testing procedures) and by interpersonal treatment, that is, applicants' perceptions of how they are treated during the selection process. These overall perceptions of fairness about the selection process and selection outcomes influence candidates' decision-making about continuing on in the selection process, whether or not they will re-apply if unsuccessful, and whether they will accept a training

place if offered (Patterson et al., 2011). For teacher training institutions, and especially institutions that are operating in a competitive environment where applicants may have several options for training, the perceived fairness of the process is an important consideration.

In Figure 1 we present a model that shows how SJTs influence applicants’ personal characteristics and perceptions of procedural characteristics, both of which feed into self-perceptions (e.g., self-efficacy about interview performance). The personal characteristics of interpersonal skills, knowledge and work experience, and personality traits interact with perceptions of procedural characteristics such as interpersonal context, formal characteristics, and selection information. The interaction of personal and procedural characteristics informs applicants’ perceptions of overall fairness, which in turn influences explicit reactions about the entire selection process. Our model recognizes that procedural characteristics do not influence all applicants’ in the same way, but rather operate in an integrative fashion with the applicants’ personal characteristics.



*Figure 1.* An integrated model in which situational judgment tests influence applicants’ personal characteristics and perceived procedural characteristics.

*Note.* The model was influenced by previous work by Gilliland (1993), Hausknecht et al. (2004), and Patterson et al. (2011).

## Methods

### Participants

Data were collected from 304 applicants (73% female; Mean age of 20.4 years) who were applying for entry into primary ( $n = 157$ ) or secondary ( $n = 147$ ) ITT programs in UK universities. The majority of participants self-identified as white (97%) and without a disability (92%).

### Measures and Procedures

We invited prospective teacher trainees applying for entry into ITT programs to participate in this study. Participation involved voluntarily participating in the SJT pilot at the end of their interview session. Prior to completing the SJT, participants completed individual and group interviews, a written task, and a skills test in mathematics. Applicants were provided with the following instructions before they began the interview session: *As part of the interview, you will be invited to complete a pilot version of the Teacher Situational Judgment Test. The test will take 60 minutes and will be scheduled at the end of your interview. The information collected in this SJT pilot will be used to help develop and refine the test for use in future selection processes. Your responses will not be used for anything other than the research associated with this pilot process.*

**SJT.** Applicant trainee teachers completed a 35-item Situational Judgment Test. Each item consisted of one scenario with 5 or 8 outcome options (see Figure 2 for an example SJT scenario). The paper-and-pencil test consisted of one test booklet with two parts and a separate answer sheet. In Part I, participants were presented with 20 scenarios, each with 5 possible response options to rank (from *most appropriate* to *least appropriate*). Part II consisted of 15 scenarios, each with 8 options. Participants to select the 3 *most appropriate* options that, when used in combination, would represent the best course of action. Before participating in the pilot SJT, participants were asked to sign a consent form, which indicated whether they consented to the results of the SJT being linked with feedback from entry interviews and course performance for future SJT validation. Participants were assured

that the pilot SJT results would not be used for current program selection purposes.

You are teaching a lesson and have asked the students to individually complete an exercise that requires them to write down their responses. You have explained the exercise to the students and answered all of the questions that they have asked. As the students begin writing, one student, Ruby, starts to throw paper around and is clearly distracting the students sitting nearby. You know from previous incidents that Ruby often becomes frustrated when she does not understand how to complete activities, and that she often displays her frustration by being disruptive.

***Choose the three most appropriate actions to take in this situation (alternatively, Rank the items in the most appropriate order)***

- Send Ruby out the class if she continues to be disruptive
- Ask Ruby if she understands what the activity requires her to do
- *etc.* (eight total response options)

*Figure 2.* Example of situational judgment test content

***Participant evaluation form.*** Following the SJT, participants were invited to complete a feedback form that consisted of three content-related items and four items concerning the use of SJTs as a method for selection (see Table 1 for item wording). The seven items measured participants' evaluation of (a) content relevance, (b) content difficulty, (c) content fairness, (d) SJT differentiation, (e) SJT fairness, (f) SJT appropriateness, and (g) SJT measurement. Participants scored each item from 1 = *Strongly disagree* to 5 = *Strongly agree*, with the mid-point descriptor at 3 = *Neither agree nor disagree*. In addition, participants were asked to indicate the length of time it took them to complete the SJTs, and were given the opportunity to provide open-ended comments following prompts (e.g., *What aspects did you find most/least effective?* and *How does it compare to other selection methods you have experienced?*).

Table 1

*Participant Evaluation Responses for Teacher Situational Judgment Test*

Item content	Total (n = 304)
Overall, the content of the SJT was clearly relevant to those applying for Initial Teacher Training	3.81 (1.26)
Overall, the level of difficulty of the SJT was appropriate for those applying for Initial Teacher Training	3.70 (1.22)
Overall, the content of the SJT appeared to be fair to those applying for Initial Teacher Training	3.65 (1.23)
The SJT will help to differentiate between candidates applying for Initial Teacher Training	3.19 (1.08)
The SJT is a fair method of selection as part of the Initial Teacher Training Selection Process	3.09 (1.07)
The SJT is an appropriate method of selection as part of the Initial Teacher Training Selection Process	3.08 (1.03)
The SJT is able to measure the attributes that are necessary for trainee teachers	3.11 (1.07)

### **Analyses**

Our analysis of the feedback data involved a two-step process: quantitative analysis (means and standard deviations) of the 304 participants’ ratings of the seven content and SJT-specific items and content (qualitative) analysis of the written comments from the 118 participants who provided responses to the open-ended items. Broad a priori themes from the content analysis included *relevance, fairness, self-perception, test design, and context*, while further analysis of the individual comments revealed themes based on organizational justice theory, and comprised two categories: (a) evaluation of the SJT as part of the selection procedure (procedural justice), and (b) evaluation of the fairness of using the SJT to inform decision making (distributive justice). Open-ended comments were further coded with themes of personal characteristics (i.e., work experience, personality).

## Results

The majority of participants (90.6%) completed the 35-item SJT within 60 minutes, with a mean completion time of 49.1 minutes ( $SD = 18.4$ ). Table 1 presents the item means and standard deviations for the three content items and the four method items, revealing scores above the mid-point and ranging from 3.08 for SJT appropriateness to 3.81 for content relevance (on a 5-point scale). There were no significant group differences for gender or for teaching level (primary or secondary) for overall content or method. Primary applicants provided higher ratings across all seven items, with significantly higher means on two method items: fairness  $F_{(1,212)} = 4.82$  ( $p = .04$ ) and appropriateness  $F_{(1, 212)} = 5.75$  ( $p = .019$ ). Of the 304 participants, 118 participants (55 primary, 63 secondary) offered both quantitative and qualitative feedback on the SJT. There were no significant rating differences between applicants who offered feedback on the open-ended items and those who did not.

We asked for feedback about the effectiveness of the SJTs as a selection method. Of the participants who provided written feedback ( $N = 118$ ), 74.6% provided specific comments critical of test design (e.g., too long; scenario options too similar) and context (e.g., scenario options based more on secondary teaching than primary). The remaining participants (25.4%) provided positive and general evaluations (e.g., very thorough; good variety of scenarios; appropriate and effective for selection).

***Procedural and distributive justice issues.*** Of the 118 participants who provided written feedback, 58.4% expressed procedural justice concerns associated with inexperience (e.g., “hard to judge if you’ve never been in a certain situation before”) and social desirability (e.g., “people could answer them the way they feel they are expected to as opposed to their own true reaction to the situation”). Participants who lacked confidence in the SJT as a suitable and effective selection method expressed concern because there was “no human interaction” or no opportunity for “the justification of responses.” This group of participants questioned the effectiveness of the SJT as a selection tool because the design did not allow “the personality” of an individual applicant to emerge.

Content analyses also revealed comments on the indirect nature of the SJT, which is designed to capture implicit traits as well as expressed, explicit traits. For example, an applicant questioned whether the test “truly reflects ability” while another stated, “many answers were based on 'gut feel' rather than knowledge.” Participants found the SJT “useful in some respects to the aptitude of teaching” but also expressed distributive justice concerns about the fairness of outcome decisions based on hypothetical situations that involved skills not yet developed (e.g., “unless [you] faced the situation for real you don't know exactly how you would react”). There was a fear that “too much [would] be read into the results” since the SJT appeared to be measuring skills that “should be [taught] during teacher training.”

**Practical issues.** Practical recommendations offered by participants, centered on test design (e.g., present using a computer instead of paper-and-pencil; include opportunities to write open-ended responses), teaching context (e.g., a need to create separate SJTs for primary and secondary program applicants), and selection use (e.g., appropriate assessment when used in combination with other tools; could be useful as a method to focus on specific characteristics of an applicant to question them further in an interview).

## Discussion

Previous research has not explored how applicants to teacher training programs perceive the fairness and appropriateness of the selection process. Applicants' perceptions of the selection process should be considered because how applicants evaluate the fairness of their experience influences the long-term success of the selection process (Patterson et al., 2011). Results from this study provide support for the use of SJTs as part of the selection process, particularly if the tools are tailored to primary or secondary contexts. Primary applicants provided higher ratings than secondary applicants overall, yet some comments included concerns that the SJT was biased to those familiar with a secondary school context. Our own previous work shows a general tendency for primary teacher trainees to provide higher overall scores on rating scales than secondary teacher trainees (e.g., Klassen, Perry, & Frenzel, 2012), but the result is puzzling and

deserves further exploration in future studies. Some applicants found it “hard to answer some of the questions when you only know a limited amount of information. It would be easier to work out the right thing to do if you were there and knew the context.” Although school contexts are multi-dimensional, with a wide range of school types, teaching subjects, socio-economic factors, and urban-rural settings, our findings suggest that teaching level is particularly important dimension for prospective teachers. In an organizational justice context, procedural justice is well-served if SJTs are tailored to the teaching level contexts of applicants.

Patterson et al. (2011) found that applicant reactions to various selection methods (an SJT, a knowledge test and a selection centre) were most positive for the higher-fidelity methods. Some of our applicants stated a preference for higher-fidelity methods (such as teaching simulations) over lower fidelity methods (such as SJTs), with concerns of not being fairly evaluated because they *perceived* SJT scenarios as based on classroom experience (something most did not have yet). But since one goal of the SJT is to measure tacit and procedural knowledge (Elliott et al., 2011) in a specific domain (i.e., interpersonal skills), it is expected that ITT applicants complete the test without access to teaching-specific knowledge. Specific teaching experience is therefore unnecessary at the time of application for the SJT to assist predicting future teacher-student practicum interactions and job performance (Lievens & Sackett, 2012).

Some secondary participants expressed concerns about response distortion, or ‘faking.’ Two factors make SJTs less susceptible to faking than conventional personality tests. First, SJTs can be constructed to be less susceptible to faking by using cognitively loaded formats that present candidates with multiple domains with heterogeneous content (Patterson, Ashworth, Kerrin, & O’Neill, 2013). Second, on our SJT, applicants were asked what they *should* do in the given situation, rather than what they *would* do, resulting in lower susceptibility to faking. SJTs measure implicit trait policies that reflect beliefs about the costs and benefits of expressing particular traits in certain situations. In other words, applicants choose what they believe is the best response—not their behavioural tendency—meaning that faking is less relevant. Compared to conventional personality tests, SJTs are less prone to faking, and deliberate faking only negligibly changes scores (Lievens, Peeters, & Schollaert, 2008). Future research on the relationship of

implicit trait policies and actual teaching behaviours is needed. In addition, (as highlighted by Patterson, Ashworth et al., 2013), further work is needed to explore how the interaction between cognition, personality, and emotions is related to training outcomes and job performance.

**Practical implications.** Assessing implicit traits through indirect measurement is not without criticism and, like Haines and Sumner (2013), we view critiques as one way to improve measures. By piloting the SJT and providing an opportunity for applicants to provide feedback, we were able to apply critiques towards the use of implicit measures in real world application settings. The participants in this study offered several practical recommendations for refining the SJT for future ITT candidate selection. One suggestion—to develop context-specific (primary, secondary) SJTs—is already being implemented. Although we do not have plans for shortening the SJT, we believe that the use of alternate testing means (video-based; computer screen) will help alleviate some of the test fatigue expressed by participants. For example, Patterson et al.'s (2012) review found video-based SJT formats generally received equal or more positive ratings when compared to written paper-and-pencil formats. Our results included applicant recommendations for different formats (i.e., on a screen, use of computer, without separate answer sheet, open-ended responses).

Since participants expressed fairness concerns based on a perceived disadvantage due to lack of teaching experience, future SJTs for ITT entry can include a statement that teaching knowledge is not needed to complete the SJT. This statement is supported by the literature (e.g., Lievens & Sackett, 2012), which identifies the SJTs as a measure of implicit procedural knowledge like interpersonal skills. Being notified of how the SJT results will be used during the selection process (e.g., in combination with an interview and other selection activities) may also help alleviate procedural concerns. The advantages of using SJTs as part of the selection process into teacher training are many: increased predictive and incremental validity, low cost, reliability, and a proven track record in the selection process in other disciplines. There is clearly much more work needed to improve the teacher training selection process, but continued attention to issues of procedural and distributive justice is warranted to ensure that the selection process is not only fair to all applicants, but *perceived* to be fair by applicants.

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## **Cooperative Learning: Developments in Research**

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# Cooperative Learning: Developments in Research

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## Abstract

Cooperative learning is widely recognized as a pedagogical practice that promotes socialization and learning among students from kindergarten through to college level and across different subject areas. Cooperative learning involves students working together to achieve common goals or complete group tasks. Interest in cooperative learning has grown rapidly over the last three decades as research has been published that clearly demonstrates how it can be used to promote achievements in reading and writing, conceptual development in science, problem-solving in mathematics, and higher level thinking and reasoning. It has also been shown to promote inter-personal relationships with students with diverse learning and adjustments needs and with those from culturally and ethnically different backgrounds. In fact, Johnson and Johnson (2000) argue there is no other pedagogical practice that achieves such outcomes. The purpose of this paper is to review the research on cooperative learning and to examine the factors that contribute to its success. In particular, the review focuses on the key elements that underpin successful cooperative learning, including group structure, composition and task, and the key role teachers' play in developing students' thinking and learning. The intention is to provide insights on how teachers can effectively utilize this pedagogical approach to teaching and learning in their classrooms.

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**Keywords:** cooperative learning, teaching, learning.

# Aprendizaje Cooperativo: Desarrollos en la Investigación

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## Resumen

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El aprendizaje cooperativo está ampliamente reconocido como una práctica pedagógica que promueve la socialización y el aprendizaje del alumnado desde educación infantil hasta nivel universitario en diferentes asignaturas. El aprendizaje cooperativo implica que el alumnado trabaje conjuntamente para alcanzar objetivos comunes o completar actividades grupales. El interés por el aprendizaje cooperativo ha aumentado rápidamente en las tres últimas décadas, en la medida en que las investigaciones publicadas demuestran claramente cómo se puede utilizar para promover resultados en lectura y escritura, desarrollo conceptual en ciencias, resolución de problemas en matemáticas, y nivel superior de pensamiento y razonamiento. También ha demostrado promover las relaciones interpersonales con estudiantes con diversidad de necesidades de aprendizaje y con aquellos con diferentes bagajes culturales y étnicos. De hecho, Johnson y Johnson (2000) argumentan que no hay otra práctica pedagógica que logre esos resultados. El propósito de este artículo es revisar la investigación sobre el aprendizaje cooperativo y examinar los factores que contribuyen a su éxito. En concreto, la revisión se centra en los elementos clave que sustentan el aprendizaje cooperativo de éxito, incluyendo la estructura de grupo, la composición y actividades, y el rol fundamental que juega el profesorado en el desarrollo del pensamiento y del aprendizaje del alumnado. El objetivo es proporcionar conocimiento sobre cómo el profesorado puede utilizar de forma efectiva este enfoque pedagógico en la enseñanza y el aprendizaje en sus aulas.

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**Palabras clave:** aprendizaje cooperativo, enseñanza, aprendizaje

Cooperative learning is widely recognized as a pedagogical practice that promotes positive social interactions and achievement among students from kindergarten through to college level and across different subject areas (Johnson & Johnson, 2002; Slavin, 1996). It has been shown to enhance students' willingness to work cooperatively and productively with others with diverse learning and adjustment needs, to enhance intergroup relations with those from culturally and ethnically different backgrounds (Johnson & Johnson, 2000; Slavin & Cooper, 1999), and to promote social connectedness in transitioning from primary school to high school (Thurston et al., 2010). In the academic domain, it has been used to promote reading and writing achievements in students (Stevens & Slavin, 1995a), including those who are academically delayed (Stevens & Slavin, 1995b), conceptual understanding in science (Howe, 2009, 2013), problem-solving in mathematics (Slavin, 2013; Slavin & Lake, 2008), and higher-order thinking and learning (Gillies, 2011; Gillies & Haynes, 2011; Gillies & Khan, 2008, 2009). There is no doubt that the benefits attributed to cooperative learning are widespread and numerous and it is the apparent success of this approach to learning that has led to it being acclaimed as one of the greatest educational innovations of recent times (Slavin, 1996).

### **Research on Cooperative Learning**

Interest in cooperative learning began to emerge in the 1970s as reports on the social and academic benefits students derived from cooperating began to be published (Allen, 1976; Brown et al., 1971; Gartner, Kholer & Riesman, 1971). These studies showed that children could be taught to facilitate each other's learning, help motivate underachieving children, improve interpersonal attitudes, and students' communication skills. However, it was argued that for these benefits to be realized, students needed to be trained in interpersonal skills as well as the content to be taught, groups should not exceed four members, and children should be encouraged to express their opinions and offer solutions to problems they were discussing. When this occurred helpers and helpees in the groups benefited from the experiences they had working together. Helpers benefited because they had to cognitively re-structure the information they were teaching in order to

explain it in a way that the helpee could understand while helpees benefited from the extra tuition they received (Damon, 1984). These findings were exciting and helped to stimulate further research on cooperating groups and how they could be used to facilitate learning and socialization.

As traditional methods of instruction where students are expected to be passive recipients of knowledge were common at this time, the focus of the research was on comparing cooperative learning to competitive and or individual methods of learning. In 1981, Johnson and colleagues (Johnson, Maruyama, Johnson, Nelson, & Skon) published the results of a meta-analysis of 122 studies that examined the effects of cooperative, competitive, and individualistic learning on achievement. The results showed that cooperation promotes higher achievement and greater productivity than do competitive or individualistic modes of learning and these results were consistent across all subject areas, all age groups, and for a variety of cognitively challenging tasks. Interestingly as cooperation increases, the authors found that groups produce a better group product when they compete against other groups, demonstrating that students still enjoyed competing but in an environment that was supportive of their efforts to achieve.

In a follow-up meta-analysis of 111 studies Johnson and Johnson (2002) examined the effects of cooperative, competitive, and individual learning on a number of academic, personal, and social dependent variables (e.g., achievement, interpersonal attraction, social support, self-esteem, perspective taking, and controversy) and found that the mean effect sizes (i.e, the strength of the relationship between the independent and dependent variables) for cooperative learning ranged from 0.58 to 0.70 in comparison to competitive and individualistic learning. These are effect sizes that are noticeable and can make “real-world differences” (Hattie, 2009, p.17) in educational interventions. In short, the results of this meta-analysis indicate that cooperative learning in comparison to competitive and individualistic learning has very powerful effects on achievement, socialization, motivation, and personal self-development.

Similar results were obtained by Slavin (1996) in a best evidence synthesis of 60 studies of the effects of cooperative learning in comparison to control methods on students’ achievement in elementary and high school classes. Slavin not only found that students learned more when they worked cooperatively together but that opportunities for learning can be maximized

if group goals and individual accountability are embedded in the cooperative method used. The key difference Slavin argued between the studies that included these criteria and others is the importance attached to group members working together as a team to attain group rewards whereas traditional unstructured group work (ad hoc groups) where students are expected to work together but with few incentives to do so has little or no effect on learning. Similar results have been reported by Gillies (2003, 2004, 2006, 2008) who has consistently found that students obtain higher learning outcomes and they are more willing to cooperate when they work in structured small groups where they are interdependently linked together so that all group members understand that they must contribute if the group is to achieve its goal. In contrast in unstructured groups, students work in groups where members are not interdependently linked and there is little or no expectation to contribute to the group's goal.

There is no doubt that cooperative learning has had a profound effect on how learning environments in schools are structured to promote student learning and socialization. In a more recent meta-analysis of 148 independent studies comparing the relative effectiveness of cooperative, competitive, and individualistic goal structures, Roseth, Johnson and Johnson (2008) found that higher achievement and more positive peer relationships were associated with cooperative rather than competitive or individualistic goal structures. In a similar vein, in a best-evidence analysis of a series of systematic reviews of research on primary and secondary mathematics, reading, and programs for struggling readers, Slavin (2013) reported that programs that provide extensive professional development in well-structured methods such as cooperative learning and the teaching of metacognitive skills produce more positive effect sizes than those evaluating other curricula reforms or computer-assisted instruction. Given the volume of information that supports structuring cooperative learning experiences, the next section of this paper, focuses on identifying the key elements of cooperative small group learning that underpin structured cooperation.

### **Key Elements of Successful Cooperative Learning**

It is well recognized that placing students in groups and expecting them to be able to work together will not necessarily promote cooperation. In fact,

groups often struggle with knowing what to do and in the process, discord can occur as members grapple with the demands of the task as well as managing the process involved in learning, including how to deal with the opinions of different members or working with students who make minimal contributions to the group's goal. In order to avoid these pitfalls, groups need to be established so the five key elements of successful cooperative learning are embedded in their structure (Johnson & Johnson, 1990).

The first of these key elements involves establishing a state of positive goal interdependence so group members understand that they are required to not only complete their part of the work but to ensure that others do likewise. When students understand that they cannot succeed unless others do and they must coordinate their actions to ensure that this occurs, cohesiveness develops in the group as a direct result of the perception of goal interdependence and perceived interdependence among group members. It is this psychological state of positive interdependence that creates the momentum for members to work together. When groups are formed where positive goal interdependence is not evident, as often happens when groups are formed on an ad hoc basis, groups are not truly cooperative.

The second key element involves group members understanding that they are individually accountable for their contributions to the group. This sense of accountability emerges when members accept responsibility for completing their part of the task while simultaneously encouraging others to do likewise. In classrooms, teachers will often establish requirements for individual accountability so that each student's contribution to the group can be identified, ensuring that each child is responsible for completing their assigned work or task in the group.

Children cooperate and work better when they have been taught the interpersonal and small group skills needed to manage group interactions and behaviours. In fact, these skills comprise the third key element in cooperative learning and include the following behaviours:

- Actively listening to each other during discussions
- Considering the other person's ideas and perspectives
- Stating ideas clearly without making disparaging comments
- Accepting responsibility for one's own behaviour
- Constructively critiquing the ideas of others

- Sharing resources
- Taking turns

The fourth key element that affects cooperative learning is promotive interaction. Promotive interaction involves group members encouraging and facilitating each other's efforts as they work together. This occurs when students listen to each other, exchange ideas and offer explanations to assist understanding, provide constructive feedback to improve performance on a task, and facilitate access to resources and materials. These reciprocal exchanges lead to group members feeling more accepted and valued, less anxious and stressed, and more willing to reciprocate and help others in return. The more members interact with each other, the more they will get to know each other as individuals and this forms the basis for caring and committed relationships (Johnson & Johnson, 1990).

The last key element in cooperative learning is group processing. Group processing is critically important as it allows members to discuss how well they are achieving their goals and maintaining effective working relationships. This involves members reflecting on what they have done well and what they will need to do to achieve the group's goals. Johnson, Johnson, Stanne and Garibaldi (1990) found that students had greater problem-solving success and higher achievement gains when they participated in either teacher-led or student-led group processing discussions than students who worked in a cooperative condition with no processing or those who worked individually, although the cooperative with no processing condition out-performed the individual learning condition. In this study, group processing involved the students in ensuring that all group members engaged in one of three processing skills: (a) summarizing group members' ideas and information, (b) encouraging members to participate in group discussions, and (c) checking to see that decisions made by the group were supported by members. Johnson et al. (1990) surmised that possible explanations for the results obtained included: the focus on metacognitive thinking increased members awareness of the need to think carefully and clearly about the topics being discussed, group processing assisted members to gain insights into how to behave more effectively when interacting with others, and feedback on social skills increased the frequency of their use.

### **Group Structure and Composition**

Given the importance of establishing cooperative groups so they include the five key elements outlined above, teachers often seek clarification on how groups can be structured to maximize learning, the composition of the groups, and the types of tasks that students find engaging. While the research clearly indicates that groups need to be structured so that the five key elements, outlined above, of cooperative learning are embedded in their structure, it is also important to consider both the composition of the group and its size. In a metaanalysis of 66 studies that examined the effects of within-class grouping (i.e., establishing small groups in classes) on student achievement at the elementary, secondary and postsecondary levels, Lou et al. (1996) found that students achieved higher learning outcomes when they worked in small cooperating groups than when they were not grouped or remained in whole-class teaching arrangements. Furthermore, students worked better and achieved more when they worked in groups of 3-4 members than in groups of 5-7 members. Interestingly, the effects of group ability composition were different for students of different relative ability with low-ability students learning more in heterogeneous groups (high-, medium- & low-ability), medium-ability students benefited significantly more in homogeneous ability groups than heterogeneous ability groups while group composition made no difference to high ability students.

Similar results were obtained in a meta-analysis of small group and individual learning with technology by Lou, Abrami and d'Apollonia (2001) with small group learning having significantly more positive effects than individual learning on students' individual achievement and group task performance. Group performance was higher in smaller groups (3-5 members) than those working individually and students gained more individual knowledge when they worked in small groups than those working individually with computer technology. Bertucci, Conte, Johnson and Johnson (2010) also found that students' achievement was higher in pairs and in groups of four than when they worked individually. Furthermore social support and self-esteem were higher when students worked in small groups than individually.

Given that previous investigations of small group structure have highlighted the academic and social benefits students derive from working

cooperatively together, Roseth, Johnson and Johnson (2008) examined the social-contextual view of the mechanisms and processes by which these benefits are promoted. In a meta-analysis of 148 studies that compared the effectiveness of cooperative, competitive and individualistic goal structures in promoting early adolescents achievement and positive peer relationships, the authors found that higher achievement and more positive peer relationships were associated with cooperative rather than competitive or individualistic goal structures. Furthermore, cooperative goal structures were associated with a positive relationship between achievement and positive peer relationships.

In a more recent meta-analysis of 24 empirical studies that examined the effects of small-group learning on transfer of learning, Pai, Sears, and Maeda (2014) found that small-group learning had a significant impact on students' transfer of learning performance when compared to individual learning with the authors suggesting that small group learning (both structured and unstructured) may naturally support transfer without the use of external structures such as scripts, roles or rewards, although the authors acknowledged that they did not distinguish between structured and unstructured groups in the analyses.

In summary, the results of these meta-analyses indicate the students derive both academic and social benefits when they work cooperatively together rather than when they compete or work individually by themselves. Furthermore, students are more likely to achieve more when they work in groups of four or less members and preferably in mixed-ability groups rather than homogeneous ones.

### **Type of Task**

The type of task students undertake in their groups is important because Cohen (1994) found that it affects the discussion that occurs. In well-structured tasks such as mathematical and computational tasks where there are specific procedures to follow, students only need to exchange information and explanations and to request assistance as they work cooperatively together. With this type of task, achievement is consistently related to giving detailed explanations to each other on how to solve the problem at hand. In contrast, in ill-structured tasks where there are no right

answers or procedures to follow, as occurs in open or discovery-based tasks, students need to exchange ideas and information if they want to find creative solutions or discover the underlying principles of a problem. Under these conditions, achievement depends on task-related interactions. In a study of Grade 3-8 students, Hertz-Lazarowitz (1989) found that when the task involved high-level cooperation, 78% of the interaction involved applicative or evaluative thinking whereas on 44% of the interaction in low-level cooperative tasks involved higher level thinking processes.

Similar results were obtained by Gillies (2008) in study of high school students who worked in high- and low-level cooperating groups on a science-based learning activity. The results showed that not only did the students in the high-level cooperating groups provide more explanations and assistance to each other but they also demonstrated more complex thinking and problem-solving skills in their discourse and on their responses on a follow-up learning probe. In short, both Hertz-Lazarowitz (1989) and Gillies found that when students work on high-level cooperative tasks, they demonstrate higher-level reasoning and problem-solving discourse and this, in turn, positively affects the learning that occurs.

### **The Teacher's Role in Cooperative Learning**

Teachers play a critical role in promoting interactions among students and cooperative learning provides opportunities for these interactions to be encouraged. Having students interact and work together not only enables students to learn from each other but also accept more autonomy over the tasks they have to complete and the decisions they need to make. It is this opportunity to be more active in their own learning that engages students' interest, reduces disruptive behaviour, and has a positive effect on the learning that occurs (Sharan & Shaulov, 1990). Interestingly, Hertz-Lazarowitz and Shachar (1990) found that when teachers change their instructional style to cooperative learning they become more involved in a complex process of linguistic change as well as their language becomes more caring and personal as they work more closely with small groups. As a consequence their language is often more spontaneous, varied, and creative and they communicate more positive affective messages to their students. This is in contrast to traditional, whole-class teaching where teachers'

language is often regarded as authoritarian, rigid, and less friendly, and teachers are often perceived as distant or impersonal. In these classrooms, teachers often direct the learning while students are expected to be passive and respond only when required to do so.

Interaction among group members is critically important to the success of small group activities and Shachar and Sharan (1994) argued that this will only happen when teachers create conditions that enable students work in small groups on tasks that require cooperation among group members. The importance of arriving at a synthesis of everyone's contributions and the expectation that the group product will be presented to the wider class are structures that are designed to foster group cohesion and motivate students to complete the task. When teachers structure small group activities so that these conditions are met, students are more interactive, using more words per turn of speech, communicate more equitably so ideas are shared among group members, and elaborate more to explain the problem at hand.

In a study that built on the studies of Hertz-Lazarowitz and Shachar (1990) and Shachar and Sharan (1994) of teachers and students verbal behaviours during small group work, Gillies (2006) investigated whether teachers who implement cooperative learning engage in more facilitative interactions with their students than teachers who implement group work only. The study also sought to determine if students in the cooperative groups modelled their teachers' behaviours and engaged in more positive helping interactions with each other than their peers in the group work only groups. The results showed that teachers who implement cooperative learning engage in more mediated-learning interactions or language designed to challenge and scaffold students' learning and make fewer disciplinary comments than teachers who implement group work only. Furthermore, the students modelled many of these interactions in their groups with the students in the cooperating groups recording nearly twice as many elaborations, short responses, and helping behaviour as their peers in the group work only groups. In short, Hertz-Lazarowitz and Shachar, Shachar and Sharan and Gillies demonstrate that teachers play a critical role in promoting interactions among students and cooperative learning provides opportunities for these interactions to be encouraged.

## Conclusion

The purpose of this paper has been to review developments in research on cooperative learning focusing on the key elements that underpin successful cooperative learning, the importance of structuring groups, the effect of different group compositions and task structures on student learning, and the key role teachers' play in developing students' thinking and learning. The intention was to provide insights on how teachers can effectively utilize this pedagogical approach to teaching and learning in their classrooms. While cooperative learning is well recognized as a teaching strategy that promotes learning and socialization, research also shows that students have much to gain when they have opportunities to interact with each other, listen to what others have to say, share ideas and information, ask questions, critique others' ideas, and use the information obtained to reason and problem-solve together.

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## **A Visual Narrative Inquiry into Children's Sense of Agency in Preschool and First Grade**

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# **A Visual Narrative Inquiry into Children’s Sense of Agency in Preschool and First Grade**

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## **Abstract**

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This socioculturally framed case study focuses on children’s sense of agency in educational settings. The study has two objectives: (a) to portray the modalities of children’s sense of agency in preschool and first grade settings, and (b) to identify the sociocultural resources that mediate children’s sense of agency in these two activity contexts. We seek to achieve these objectives through a visual narrative inquiry that entails the children’s (N:5) photo-narration of their sense of agency in preschool and primary school settings. The results indicate the sociocultural embeddedness of the children’s sense of agency. They also show continuities and discontinuities in the children’s sense of agency across the preschool and first grade settings. The children’s sense of agency was mediated by people and material artefacts, as well as by the rules, objectives, time-structures, and social interactions of the activity contexts. These findings are pivotal in understanding how to support the educational engagement of children and their positive transition to school. The study also shows how visual narrative inquiry offers a potential methodology for listening to children, especially in terms of their sense of agency.

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**Keywords:** Children’s sense of agency, modalities of agency, sociocultural perspective, educational settings, engagement, visual narrative inquiry

# Una Investigación Narrativa Visual en el Sentido de Agencia de los Niños en Infantil y Primer Grado

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## Resumen

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Este estudio de caso de marco sociocultural se centra en el sentido de la agencia de los niños y niñas en contextos educativos. El estudio tiene dos objetivos: (a) reflejar las modalidades sobre su sentido de agencia en preescolar y primaria, (b) identificar los recursos socioculturales que median el sentido de agencia en estos contextos de actividad. Perseguimos estos objetivos a través de una investigación narrativa visual con foto-narración de los niños y niñas (N:5) sobre su sentido de agencia. Los resultados indican el arraigo sociocultural del sentido de agencia de los niños y niñas. También muestran continuidades y discontinuidades en el sentido de agencia entre preescolar y los primeros cursos de primaria. El sentido de la agencia fue mediado por personas y objetos materiales, así como por normas, objetivos, tiempos-estructuras e interacciones sociales de los contextos de actividad. Estos resultados son fundamentales para entender cómo apoyar el compromiso educativo de los niños y niñas y su transición positiva a la escuela. La investigación narrativa visual ofrece una metodología potencial para escuchar a los niños y niñas, sobre todo en cuanto a su sentido de agencia.

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**Palabras clave:** sentido de agencia de los niños y niñas, modalidades de la agencia, perspectiva sociocultural, contextos educativos, participación, investigación narrativa visual



Although agency, that is, the capacity of individuals to act independently and to make their own free choices, has historically been recognized as a valuable part of human life in most Western societies, it is only recently that the recognition and appreciation of agency in children has been emphasized in educational research, practice, and policy. There are many explanations for this phenomenon. From one perspective, contemporary interest in the agency of children is a result of initiatives that have stressed the voices of children and their right to participate in society, which includes the freedom to express opinions and to have a say in matters that affect their lives (Einarsdottir, 2007; Cook & Hess, 2007; Wyness, 1999; Marr & Malone, 2007; The United Nations Convention on the Rights of the Child, 1989).

Another explanation emphasizes agency as a pivotal element in childhood learning and development. Agency is something that education should recognize and develop (Biesta & Tedder, 2006; Ecclestone, 2007). In these discussions, agency is viewed both as an educational means and as an end itself. That is, it is seen as a means of promoting meaningful and productive educational engagement and learning and of building identity (Gresalfi, Martin, Hand, & Greeno, 2009; Engle & Conant, 2002; Kumpulainen & Lipponen, 2010; Kumpulainen, 2013), and as a disposition that should be cultivated through education, as it can help children to develop a transformative activist stance in relation to society, life, and learning (Stetsenko, 2013). Education should create opportunities for children's active agency who can adopt deliberative, responsible, and transformative dispositions in relation to their current and future personal, professional, and public lives (Emirbayer & Mische, 1998).

Human agency has also been connected to transitions and boundary crossings during the course of life (e.g., Ecclestone, 2007; Ecclestone, Biesta, & Hughes, 2009; Eteläpelto, Vähäsantanen, Hökkä, & Paloniemi, 2013; Zittoun, 2006). Here, the recognition and appreciation of agency are seen as ensuring continuity, engagement, and a sense of belonging, such as in the context of educational transitions. Agency has also played a central role in educational efforts to create transformative interaction between individuals' funds of knowledge and their informal and formal cultural

worlds, with the goal of promoting educational equity and opportunity (Barton & Tan, 2010; Ito et al., 2013; Kumpulainen & Mikkola, 2014; González, Moll, & Amanti, 2005).

In this article, we conform to these perspectives on the importance of recognizing and promoting children’s agency in the educational process. We want to uncover the sociocultural conditions and resources, including relational contexts, symbolic systems, and institutional practices, that mediate and structure children’s agency in preschool and first grade. Moreover, instead of analyzing how agency is keyed to a single location or situation, we examine the sense of agency across educational settings. As recent studies of agency suggest, it is pivotal to look both within and across various settings and time-scales if we want to capture the genesis and sociocultural dynamics of agency formation (e.g., Haapasaari, Engeström, & Kerosuo, 2014).

In respecting the voices and participation rights of children, and regarding children as important knowledge producers, we emphasize the children’s perspectives of their own agency (see also McCarthy, Sullivan, & Wright, 2006). Therefore, we focus on children’s sense of agency in educational settings. With this approach, we aim to capture the many ways in which children sense their agency within their life worlds (Christensen & James, 2008; Smith, Duncan, & Marshall, 2005). We do not posit standard developmental capacities at certain ages, but rather focus on the ways in which agency is explained from the perspective of the child in a social context.

The methodological approach we propose is visual ethnography, in which children are invited, as research collaborators, to explore and document their sense of agency through a process of visual narrative inquiry (Bach, 2008; Pink, 2007). Founded on the understanding of narratives as experience and as a means for human meaning-making, narrative inquiry is not only about individual experiences, but also the social, cultural, and historical contexts in which the experiences of individuals are formed, including how agency is constructed, shaped, and expressed across space and time (McAdams, Josselson, & Lieblich, 2006).

A visual narrative approach to understanding the sense of agency in children in educational settings is a promising method for exploring how

different social settings—and their material, social, and cultural resources and conditions—offer possibilities and challenges and create continuities and discontinuities. This, in turn, has consequences with regard to educational engagement, learning opportunities, and identity building in children (see e.g. Hand, 2006; Nasir & Hand, 2008; Nichols & Berliner, 2007; Wortham, 2006).

### **Agency as an Interactional Achievement**

In our study, we examine the relational nature of children's agency via modalities; that is, agency is constructed as interaction between the individual and the social context across temporal and cultural spaces (Archer, 2000). In following the work of Jyrkämä (2008) and narrative semiotics in general (Greimas & Porter, 1977), we pay analytic attention to the modalities of children's sense of agency in and across preschool and first grade settings, which account for children's sense of

- being able to do something;
- knowing how to do something;
- wanting to do something;
- having the possibility to do something;
- having to do something; and
- feeling, experiencing, and appreciating something.

Through these modalities, we examine the ways in which the children's sense of agency, including their aspirations, beliefs, and competencies, interact with the sociocultural context, such as the rules and resources of the preschool and first grade settings. The modalities thus illuminate the limits and possibilities of agency created by these social contexts and how children transform social contexts to serve personal and/or collective ends.

The theoretical grounding of our study draws on the sociocultural notions of agency (see e.g. Edwards, 2005; Kumpulainen & Lipponen, 2010, 2013; Rainio, 2008; Wertsch, Tulviste, & Hagstrom, 1996). According to this conceptual framework, agency can be understood as relational, contextually situated, and emerging from interactions between the child and their social

context. From this perspective, human agency is not a fixed trait, property, or capability that resides in the individual, but an action that shifts in relation to the social context (Biesta & Tedder, 2006; Greeno, 2006; Gresalfi, Martin, Hand, & Greeno, 2009; Schwartz & Okita, 2009; Zittoun, 2006).

From the sociocultural perspective, agency evolves in sociocultural settings, and it is tightly connected to the motives and contradictions these entail. A sociocultural setting can be defined as a set of interacting contexts that mediate agency. Each context comprises a unique configuration of activities, material resources, relationships, and interactions (Barron, 2006). Although initiated by individuals, agentic actions gain their meaning, their consequences, and their continuity from the interplay between individuals and social context. In this sense, agency is relationally produced and maintained. To this end, agency should be analyzed by focusing on the emergence of agency in social contexts and an individual's meanings and purposes in relation to their agency across space and time (Kumpulainen, Lipponen, Hilppö, & Mikkola, 2013).

Lately, the importance of understanding the sociocultural conditions that mediate individual agency have been increasingly recognized (see e.g. Bjerke, 2011; Kumpulainen & Lipponen, 2010; Markström & Hallden, 2009; Rainio, 2008, 2010; Rajala, Hilppö, Lipponen, & Kumpulainen, 2013). It is important to understand how social contexts and their material, social, and cultural resources regulate agency as well as how agency can mediate and transform the social context. At present, we lack research on how different activity settings and their sociocultural resources mediate the sense of agency in children as they experience it.

Furthermore, although the relationship between agency and time has been addressed in the existing literature (see Emirbayer & Mische, 1998), the emergence and development of agency over time has seldom been systematically analyzed in empirical research. At present, we lack knowledge about how individuals adjust and orientate their agentic actions toward the past, present, and future in different situational contexts (Haapasaari, Engeström, & Kerosuo, 2014). We also aim to contribute to this unexplored field by focusing our investigation on the temporal orientation of the sense of agency in children across social contexts.

To this end, we use visual images (i.e., photos) in a narrative inquiry into children's sense of agency across space and time (e.g., Clandinin & Connelly, 1996; Gillen & Cameron, 2010). Through this visual narrative inquiry, we aim to shed light on the sense of agency in children, and its links to the past, present, and future embedded within the social, cultural, and institutional contexts (Bach, 2008; Pink, 2007; Taylor & Littleton, 2006). The images are a medium through which we can better understand and analyze the children's narrative constructions of their sense of agency—in granular moments and across time—and a method for representing the complexity of their lives (see e.g. Bloustein & Baker, 2003; Tinkler, 2008).

In accordance with theories that define identity as narrative (see e.g. Bruner, 1987, 1991; McAdams, Josselson, & Ruthellen, 2006; Ricoeur, 1984), we postulate that individuals form their identities by integrating their life experiences within an internalized, evolving story of the self. Narrative is a dynamic process that constitutes both the way in which we organize events and experiences in our lives to make sense of them and the way in which we participate in creating the things we make sense of, including ourselves. A visual narration of an individual's sense of agency integrates their reconstructed past, perceived present, and imagined future. From this perspective, we posit that the ways in which children experience their sense of agency is integral to the development of their identities (Hand, 2006; Nasir & Saxe, 2003; Nasir & Hand, 2008; Sford & Prusak, 2005; Wenger, 1998; Wortham, 2006).

## **Study**

The study discussed in this paper has two objectives: (a) to portray the modalities of the sense of agency in children across preschool and first grade settings, and (b) to identify the sociocultural resources that mediate the sense of agency in children within these two activity contexts. We seek to achieve these ends using a visual narrative inquiry, which entails the children's photo-narration of their sense of agency in preschool and then primary school settings.

In this study, we ask two research questions:

- How do children narrate their sense of agency across space and time within the context of preschool and first grade settings?
- What are the sociocultural resources that children identify as mediating their sense of agency in the two educational settings?

## **Method**

### **Participants**

Five children—Anna, Henri, Laura, Leo, and Emma (three girls and two boys)—aged from 6 to 7 years old participated in this study. The children participated in the study while attending preschool and then first grade. The recruitment was based on child and parental interest and willingness to be involved.

At the beginning of the study, the following ethical permissions were sought: institutional approvals from the local daycare center and school authorities and voluntary, informed consent from the children, parents, and teachers. In order to ensure the children's anonymity, their names are replaced with pseudonyms.

### **Setting**

The empirical study was situated in a Finnish day care center that provides preschool education and in the two primary schools to which the children transitioned for their first year of school. The schools and the day-care center are run by the city of Helsinki and located in the northern part of the capital, and they serve a demographically (including ethnically and socio-economically) diverse group of children and families.

In Finland, pre-primary education is a subjective right for all children, and it is typically provided to children one year before starting school. While it is voluntary, about 98% of Finnish six-year-olds attend preschool. In Finland, compulsory education commonly starts when a child turns seven years old (Act, 1998). Both preschool and primary education follow the national core curriculum guidelines, which are further developed as local

curricula (NBE, 2010; NBE, 2004). While the overall distribution of lesson hours has been decided by the Government, day care centers and schools can design their own timetables for preschool and basic education. Pedagogical accountability is also distributed at the local level, which gives day care centers and schools the freedom to create their own pedagogical practices within the framework of the national core curriculum.

In the Finnish preschool and basic education core curricula, the emphasis is placed on child-centered learning as well as on children's engagement and participation rights in educational practices and decision-making. The appreciation and promotion of children's agency in educational practice is considered an educational imperative that supports learning, wellbeing, and healthy development in general (NBE, 2010; NBE, 2004).

In this study, the preschool was part of a day care class, which consisted of about 30 children from 3 to 6 years old. Sixteen of these children were preschoolers. The children attended preschool for four hours per day, while the rest of their day was spent as part of the day care class. During the preschool period, the children used their own classroom as well as the spaces of the day care center. The preschool classroom was shared with the entire day care class. Every child had their own locker, which is where they kept their outdoor clothes and private belongings. The children also had their own drawers, which is where they kept their learning materials, such as books and handouts. In the preschool, the children did not have personal desks. In general, their learning spaces were mobile and distributed across the day care center.

After preschool, the children who participated in the study transitioned to two different primary schools and to three different first grade classrooms. The first grade classes consisted of around 20 children each. The physical environments of the first grade classrooms were quite similar. Children had their own desks, which is where they kept their materials, books, etc. In all the classrooms, the teacher's table was located at the front of the classroom, together with a blackboard and some educational technology.

## **Data Collection**

The data collection was handled by the preschool teacher, who was also the researcher in this study. The data collection was continued at the children's primary schools, albeit only in the role of a researcher. The data collection took place in the spring term at the daycare center and during the following fall term in the first grade settings of the primary schools, encompassing a nine-month period.

The data collection in this study was framed by a visual narrative inquiry, which entailed the children's photo-documentation and photo-narration of their sense of agency in the preschool and then in the primary school settings. The children's photo-narration took place during their photo-documentation and later in their interviews about their photos. Before the actual visual narration, every child learned how to take photographs with the digital camera. The researcher and the children talked about the cameras and photography as well as about the research project and its goals and phases.

The instructions for the visual narration in the preschool and first grade settings followed the analytical categorization of the modalities of agency (Jyrkämä, 2008). In this study, the modalities of agency thus guided the children's visual narration of their sense of agency. That is, the children were asked to communicate their sense of agency via their photo images by documenting matters that (a) they could and were able to do, i.e. 'Can and be able to', (b) matters that were linked to their feelings and wants, i.e. 'Feel and want', and (c) matters they could and could not take part in and influence, i.e. 'Participate and influence'.

The children could take as many photographs as they wanted. The children were shadowed and observed by the researcher during their photo-documentation as a means to support the children in their work and to gain additional insights into the meanings behind the children's visual narration of their sense of agency.

After photographing, the children were invited to individual interviews. The interviews and the children's photo-documentation were based on the children's visual narration of their sense of agency. During the interviews, the children were invited to explain their photos, including the details of their images and the meanings and connections they made while taking

them. The researcher took part in the children's visual narration to ask for clarification or to support the narration process. The complete interviews were audio-recorded and transcribed.

## **Data Analysis**

In our analysis, based on visual ethnography (e.g., Bach, 2008; Pink, 2007) and narrative studies of identity (e.g., McAdams, Josselson, & Lieblich, 2006), we investigated both the contents of the photo images and the children's oral accounts of their sense of agency as constructed in their interviews. In this study, visual narration encompasses both the children's photos and their oral accounts during their interviews embedded in their photo-reflection. We tried to attend to the meanings behind the children's visual narration and how these meanings, as story experiences, were embedded within social, cultural, and institutional contexts (Bruner, 1987, 1991; Taylor & Littleton, 2006). The specific analytic focus was on the modalities of the children's sense of agency and the sociocultural resources the children identified to for their sense of agency in and across their preschool and first grade settings. In addition, the children's visual narration was analyzed in terms of its temporal characteristics, focusing on the children's past, present, and future orientations regarding their sense of agency.

## **Results**

We shall now turn to the results of the study. First, we will discuss the overall findings of the study in order to provide a more holistic picture of the children's visual narration of their sense of agency as represented in their photo images. Second, we will illuminate the visual narrations of the children's sense of agency as constructed in their interviews.

The outcomes of the analyses of the children's photographs and oral accounts constructed in their interviews are discussed according to three thematic categories that portray the modalities of the children's sense of agency in the preschool and first grade settings. These thematic categories stand for the children's sense of what they could and were able to do (i.e.,

how the children described what they could and were able to do in and across the preschool and first grade settings), what they felt and wanted (i.e., illuminating the children’s feelings and aspirations in the two educational settings), and what they felt they could participate in and influence (i.e., how the children defined their possibilities of taking part and having a say in matters that were important to them in these educational settings).

### **The Children’s Photo Images as Representations of their Sense of Agency**

The five children who participated in this study took a total of 505 photos in their preschool and first grade settings. Of these, 248 photos were taken in the preschool and 157 photos were taken in the first grade setting. In addition to the differences in the number of photos taken in the preschool and first grade settings, the photos differed between the educational settings in terms of their modality. The children photographed many more images in their preschool settings (N:202) related to their sense of being capable than they did in the first grade setting (N:71). Also, the children focused more on their feelings and wants in the preschool (N:122) than in the first grade settings (N:40). The number of photos related to the children’s sense of being able to participate in and influence matters was similar between the educational settings (preschool setting, N: 44; first grade setting, N: 46). However, this modality showed the greatest variation between the children in terms of the number of photos.

Table 1 summarizes the number of photos the children took while documenting their sense of agency in the preschool and first grade settings.

Table 1

*The children’s photos in the preschool and first grade settings*

Modalities of agency	Pre-school setting	First grade setting
Can and be able to	202 photos:	71 photos:
Anna	13	10
Emma	40	21
Henri	35	13
Laura	58	22
Leo	56	5
Feel and want	102 photos:	40 photos:
Anna	18	10
Emma	16	14
Henri	12	12
Laura	31	5
Leo	25	4
Participate and influence	44 photos:	46 photos:
Anna	19	8
Emma	8	8
Henri	1	11
Laura	9	11
Leo	7	8

**The Children’s Visual Narration of their Sense of Agency across Space and Time**

Next, we will illuminate the nature of the children’s visual narrations based on their interviews. While discussing the results, we pay specific attention to the ways in which the modalities of agency occurred in the children’s visual narration and how these fit with the sociocultural resources of the activity

contexts. Thus, our analytic focus addresses the temporal dimensions of the children's sense of agency in addition to the sociocultural and material resources of the activity contexts.

*I can do and I am able to do*

While narrating what they could and were able to do in the preschool setting, the children typically referred to material productions, such as their drawings on a wall. In addition, their visual narration included different physical spaces in the daycare center, classroom, hall, and dining room. The children's sense of what they could and were able to do was also characterized by activities, such as dressing up, drawing, playing board games, doing assignments, and climbing or playing the piano.

The children's visual narration identified similar resources in the first grade settings, which accounted for their sense of feeling competent. However, in the preschool, the sociocultural resources identified by the children were more varied in nature than in the first grade setting. Moreover, some activities, such as playing, appeared to have a much more important role in the preschool setting than in the first grade setting.

Our first example demonstrates Henri's visual narration of his sense of agency in terms of what he felt he was capable of doing in the preschool. In this example, Henri bases his visual narration on a photo image of painted wallpaper. The researcher supports Henri's initiation by asking him to explain the meaning behind the photo.



*Figure 1.* I can do a similar piece by myself.

#### Extract 1

Researcher: And what is in this [photo] what you can do? What did you think?

Henri, preschool: Well, I can do that?

Researcher: Have you ... have you made it by yourself?

Henri: No, but I can do it.

Researcher: You could do it?

Henri: Yes.

Researcher: Ok. Could you do those letters?

Henri: (nods)

Researcher: What about those numbers? Could you do those?

Henri: Yes.

This interaction involves a discussion of a photo Henri had taken of painted wallpaper in order to demonstrate what he could do. Although Henri did not make the wallpaper himself, he nevertheless felt that he could do a similar piece on his own. Henri's visual narration reflects his strong sense of agency in his abilities. As the interaction episode reveals, Henri uses the wallpaper as a projection of his skill in writing letters and numbers. Here, the past, present, and future orientations are a strong part of Henri's narration of his sense of agency with regard to what he felt he was capable of doing.

Our second example features Laura (a preschooler), who had taken a picture of a light switch in the daycare center, as she explains the story behind the photo. In addition to this photo, she had taken photos of bookshelves and her locker to demonstrate what she was capable of reaching.



*Figure 2.* I am able to reach higher.

Extract 2

Researcher: -- Then you took a photo from your locker, a bigger one. Do you remember what you thought about this photo?

Laura, preschool: Now I can remember, although I didn't remember earlier. That I'm able to reach up there.

Researcher: Good. Yeah, you are able to reach up there.

Laura: Because, when I was smaller, I couldn't reach there.

Researcher: Ok. Good.

Laura: Here I'm able to reach up there.

Researcher: You are able to reach up there to the shelf where there are board games.

Laura: Yep.

Researcher: Ok, good.

Laura: Then I'm able to reach there as well.

Researcher: You are able to reach there, too?

Laura: Yes.

Researcher: Ok.

Laura: And I could ... I mean, I'm able to take my file by myself.

Researcher: True, although those are quite high. Aren't they?

Laura: Mmm. (nods)

Researcher: Ok.

Laura: And I'm able to reach up to that light switch.

Laura's visual narration of the light switch indicates that Laura saw herself as being able to reach high. She explained that she was able to do so because she was taller than when she was younger. In the conversation with the researcher, Laura referred to many places that she was now able to reach. Laura's defined her understanding of her physical growth by the new opportunities it presented her. That is, she could now switch on the lights by herself. The notion of time is also very present, as Laura talks about her growth in the past, and she compares the present situation to the past. This example illuminates how development, in this case physical development, mediates the children's sense of agency regarding what they conceive they can do in a certain setting.

Our third example demonstrates how the notion of time and the sociocultural expectations interacted dynamically in Emma's visual narration. The extract shows how Emma, who was now a first grader, reflected her own learning and development across space and time. What is also visible in this narration is her awareness of cultural expectations for her agency, learning, and development.



Figure 3. At school I can write numbers correctly.

### Extract 3

Emma, school: Well, I ... such like what I couldn't do in preschool but now I am allowed to do it.

Researcher: You can do it or you are allowed to do it?

Emma: I can do it.

Researcher: Ok, so they are what?

Emma: Well, I can write numbers correctly now when I'm in the preschool ... school.

Researcher: Now that you are in school. Yes.

...

Researcher: Let's see, what is the next one? Those were the fruits and vegetables.

Emma: I can't do those, those kind of ... because that was a second grader's job.

In Emma's narration, reflections on growth and development can be identified. Emma had realized progress in her learning. She felt that she was unable to write numbers correctly in preschool, but now in first grade she could. She also realized that there were things that she could still not do. She felt that she could not 'do' fruits and vegetables. What is also evident in Emma's narration is her awareness of cultural expectations. These cultural

expectations appeared to create both opportunities and restrictions with regard to her agency and how she sensed what she was able to do and when.

### *I feel and I want*

The children's visual narrations of their feelings and wants largely focused on people. The children photographed their friends, teachers, other workers, and siblings who were important to them and who they considered as producing positive feelings. The children's visual narrations also revealed negative feelings: sometimes friends, and new and unfamiliar situations, produced uncomfortable and negative feelings. In the preschool, the children took more photos about people than in the schools. Physical spaces and materials, such as pictures, work pieces, and play areas, produced positive feelings.

When narrating their wants, the children explained how they wanted to learn more, to develop a new skill, or to improve a skill they already had. Certain rules that they had to obey in the preschool and in the primary school were also mentioned in the children's visual narrations as regulating their wants. In their visual narrations, the children explained that they faced restrictions in both educational settings, and they wanted to do things that were forbidden to them. Overall, in the preschool, the children concentrated on providing narration about activities they wanted to do and different physical skills they wanted to achieve. In the first grade, the children's visual narrations concentrated more on aspirations that dealt more specifically with learning something new.

In preschool, the children's visual narrations of their feelings and wants concentrated on current activities. In the preschool setting, the children's wants did not appear to include restrictions or demands. They simply took photos of things they wanted to do. In the first grade, wanting focused extensively on the future. The next episodes illuminate the children's visual narrations of situations that mediated their feelings and wants.

Extract 4 is an episode in which Leo, a preschooler, described how photographing himself using a mirror brought him joy.



Figure 4. I bring myself a happy feeling.

#### Extract 4

Leo: Mmm, I bring myself a happy feeling. I took a picture of myself through a mirror and after when I looked at the photo, it looked strange.

Researcher: So, you took a picture of yourself because it brings you a happy feeling. Is that so?

Leo: Yes.

Researcher: Ahaa. Yes.

Leo took a photo of himself through a mirror and described the feelings regarding this agentic activity produced in him. Playing with the camera and taking a photo of himself mediated Leo's feelings about himself and accounted for his emotional state.

Extract 5 provides Laura's narration of her photo about a clock. In this episode, Laura explained how she wanted to learn how to read time.



*Figure 5. I would like to learn how to read the time better.*

#### Extract 5

Laura, school: And then I'd like to ... I can read the time a little but I'd like to learn how to read the time better.

Researcher: Okay.

Laura took a photo of a clock. For Laura, the photo indicates that she knows how to read the time, but she would like to learn how to do it better. In the narration, she demonstrated her agency with regard to being able to improve at reading time. The notion of time is also present in her visual narration. She reflected on what she wanted in a future-oriented mode, and she contrasted the future with the present.

#### *I participate and influence*

The analysis reveals that in both the preschool and first grade settings, the children felt that there were things that they could influence and take part in. In the preschool, the children explained how that had an influence on what they could play and what they could do. In the first grade, the children described having a notebook in which they could draw and write whatever they wanted. They also explained how they had an influence on their

artwork, such as deciding what their drawing would look like and making decisions about what colors to use.

The children's narrations also described situations in which they felt they were not allowed to do something or did not feel that they had any influence. At the preschool, the children mentioned activities that were obligatory for them and that they did not have a say about these matters. In the first grade, rules and schedules were often mentioned in the children's visual narrations. Some exceptions were noted, such as the time period after lunch, as more than one child mentioned that they could sometimes choose what they wanted to do before the next lesson. Overall, in the first grade, the children's visual narrations included more examples in which the children felt they did not have an influence compared to the preschool setting. This finding was not evident in the actual number of the children's photos, as the children took a fairly equal number of photos in this modality across the settings. The children's interviews thus provided an enriched understanding of their sense of agency in the educational settings.

The next two examples illuminate the children's visual narrations of their sense of agency with regard to participation and influence in the preschool and first grade settings. The first example shows Anna explaining how she could influence her activities at the preschool.



*Figure 6. I have an influence on what I do.*

#### Extract 6

Anna, preschool: I have an influence on what I play, or you know ...

Researcher: It's about that. Ok, so you often have an influence on what you play, or do you ...?

Anna: I have an influence on, like, when we have to do silent doings [while younger children are still sleeping] so some of my silent doings what I like, like sewing, drawing, tinkering, and then I could sometimes play some board games, but I haven't really realized that yet.

Anna took a photo of the preschool classroom, which is where preschoolers that did not sleep went after reading time. Anna described the situation after reading time and the possibilities in that situation that allowed her to have influence on what she did. She felt that she could choose what to do after reading time. She felt that she had many options, including options that she had not chosen or even realized.

Extract 7 describes Laura's visual narration about her sense of influence in the first grade. Her photo is of the timetable for her first grade class.



Figure 7. I don’t have any influence on what we do in school.

#### Extract 7

Laura, school: I don’t have any influence on what we do in school.

Researcher: Mmm, can you ever decide what you do?

Laura: Well ... maybe sometimes, but I don’t remember what kind of situation that is.

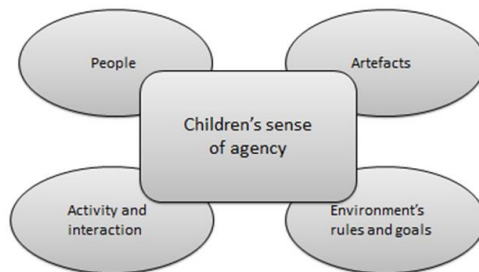
Laura took a photo of her first grade timetable in the classroom. For Laura, this picture signified that she had hardly any influence on matters at school. In her interview, she suggested that there might be a situation in which she could choose what to do, but she could not remember exactly what that situation was.

### Discussion

This study investigated the sense of agency in children across space and time based on preschool and first grade settings. In drawing on sociocultural notions of agency, the study aimed (a) to portray the modalities of the children’s sense of agency in and across preschool and first grade settings, and (b) to identify the sociocultural resources that mediated the children’s sense of agency in these two activity contexts. We sought to achieve these aims through a visual narrative inquiry, which entailed the children’s photo-

narration of their sense of agency in the preschool and then in the primary school settings. In addition, the children were observed during their photo-documentation, and they were later interviewed about their photos.

The children’s visual narrations revealed several sociocultural resources that the children identified as mediating their sense of agency in the preschool and first grade settings. In the children’s photos, material artefacts and people played an important role. Here, the people were friends, peers, teachers, other adults, and the children themselves. The material artefacts included productions, such as drawings that the children had made (either by themselves or others), toys, books, board games, and different physical spaces. The analysis of the children’s visual narratives developed during their interviews enriched the understanding of the pictures, illuminating how, in addition to the material artefacts and people, numerous rules, objectives, time-structures, and social interactions in the activity contexts mediated their sense of agency. Figure 8 below summarizes our findings regarding the sociocultural resources that mediated the children’s sense of agency (see Figure 8 below).



*Figure 8.* The sociocultural resources related to the children’s sense of agency

The findings of this study indicate the sociocultural embeddedness of the children’s sense of agency, illuminating the ways in which relational contexts, symbolic systems, and institutional practices mediate and structure children’s agency in and across preschool and first grade settings (Emirbayer & Mische, 1998). The findings demonstrate how the sense of agency is configured between the child and the social context and how it is shaped by

the rules, cultural beliefs and expectations, activities, material resources, relationships, and interactions that emerge in these contexts (Barron, 2006).

The findings indicate that the sociocultural conditions both supported and constrained the children's sense of agency in and across the two educational contexts. Moreover, the results show that the sociocultural resources identified by the children that supported their agency differed according to the educational setting, indicating discontinuities in their educational journeys across space and time. For example, opportunities for play practically disappeared from the children's visual narrations in the first grade.

The data analysis on the modalities of agency reveals that the preschool setting was experienced by the children as affording them more opportunities to feel competent and to realise their aspirations. The possibility of participating in and influencing matters was likewise more evident in the preschool setting than in the first grade setting. However, what is interesting in the children's visual narrations in this modality across the educational settings is the actual situations and activities that the children said provided opportunities to participate and influence choices. In this study, the children indicated they had an influence on matters such as choosing colors for their drawings or deciding what to do during a short break. From these accounts, it appears that there were few opportunities in either of the educational settings for real transformative agency. That is, the children were unable to take the initiative to transform their positions and to change the course of activities, even though these experiences are recognized as being pivotal in supporting the growth of children into active agents in their lives (Edwards & D'Arcy, 2004; Stetsenko, 2008, 2013). Moreover, the curriculum goal of engaging children in educational decision making was not evident in the children's visual narrations. The educational conditions necessary for children to have transformative agency clearly deserve further investigation.

The children's sense of their development was also actively negotiated in the children's visual narrations. Their own physical growth was experienced as the opening of new possibilities for agency. The physical ability to engage and interact with material objects and physical spaces was related to the embodied nature of agency (i.e., how agency manifests itself in embodied

relations to the world) (2000, 2003). Cultural expectations regarding the development of children were also identified to regulate the children's visual narrations regarding what they could do and were capable of doing. This finding is particularly relevant for education and pedagogy, as cultural expectations regarding the capabilities of children can provide encouragement and opportunities, but they can also undermine and even discourage children's sense of their agency with regard to learning and development.

The results also demonstrate that in addition to the social context and its resources, time is an important element in the children's sense of agency. The notion of time was actively negotiated in the children's visual narrations, both in situated moments and across the preschool and first grade settings. Institutional time-structures and their regulating power were also visible in the children's narrations. The children's temporal orientations to their agency were found to have different focuses in the two educational settings. In the preschool, the children's visual narrations concentrated on activities they wanted to do and on their physical development in general. In the first grade, the children's visual narrations focused more on learning something new. Here, the cultural mediation of the school context and its emphasis on learning goals becomes very visible in the children's narrations.

### **Conclusions**

The contributions of this study are both theoretical and practical. In terms of theory, the study sheds light on the sociocultural underpinnings of the children's agency in two educational contexts, demonstrating the interplay between culture- and context-specific processes and agency. It illuminates how agency is operationalized at the intersection of two activity systems, and thus how paying attention to the construction, negotiation, and maintenance of agency can offer spaces for intervention and for understanding the sociocultural conditions for agency. Attention to the details of social contexts and their perceived resources will enable us to understand how agency is socially constructed and how this mediates, and even determines, the educational engagement and learning of children. As this study shows visual narrative inquiry offers a potential methodology for

attending and listening to children, especially in terms of their sense of agency across space and time.

In a practical sense, understanding the sociocultural processes and conditions that mediates the children's sense of their agency provides ways of modifying school ecologies and classroom practices to empower every child and ensure meaningful educational engagement and a positive start to school. Recognizing the sociocultural resources underlying agency in the everyday life of the classroom is vital to proactively promote children's engagement, learning, and wellbeing (Kumpulainen et al., 2013). These findings are also pivotal in understanding how to support children's positive transition to school. In Finland, there are many knowledge exchange practices between institutions and adults that support educational engagement and positive school transitioning for children. However, as this study reveals, it is also important to recognize the actual sociocultural settings, and their social conditions and resources, that mediate children's agency in and across educational settings.

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## **Absenteeism, Burnout and Symptomatology of Teacher Stress: Sex Differences**

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# **Absenteeism, Burnout and Symptomatology of Teacher Stress: Sex Differences**

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## **Abstract**

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Although numerous studies have been carried out confirming high levels in symptomatology of stress and depression in the teaching profession, research focusing on sex differences in these problems has been both scarce and inconclusive. The aim of this study is to analyse differences with regards to sex in the incidence of absenteeism, work-related stress, symptomatology of depression, level of burnout and psychiatric symptomatology. The sample consists of 71 Secondary teachers, 31 men and 40 women. The tools used were the Questionnaire of Teacher Burnout (CBP-R), the Beck Depression Inventory (BDI), the Symptomatology Checklist-90-R (SCL-90-R) and a socio-demographic and work-situation questionnaire. Results showed sex differences only in the types of illness that caused sick leaves in men (50% otorhinolaryngological) and in women (50% psychiatric), and in some of the correlations between Role Stress-Burnout and psychiatric symptomatology that were higher for women than for men. In conclusion, this research supports the results of other studies that have not found different patterns of stress, burnout and depression between female and male teachers.

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**Keywords:** teacher stress, absenteeism, burnout, depression, sex differences

# **Absentismo, *Burnout* y Síntomas de Estrés Docente: Diferencias de Sexo**

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## **Resumen**

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A pesar de la abundante investigación que confirma los elevados niveles de síntomas de estrés y depresión entre la profesión docente son, sin embargo, relativamente pocos los estudios que analizan las diferencias de sexo en el malestar docente, y los resultados obtenidos no han sido concluyentes. Este estudio tiene como objetivo conocer las diferencias en función del sexo en el absentismo laboral, el estrés laboral, la sintomatología depresiva, el nivel de burnout y en la sintomatología psíquica. La muestra está formada por 71 profesores de secundaria, 31 varones y 40 mujeres. Los instrumentos utilizados son el Cuestionario de Burnout del Profesorado (CBP-R), el Beck Depression Inventory (BDI) y el Symptoms Checklist-90-R (SCL-90-R) y un cuestionario sociodemográfico y laboral. Los resultados mostraron diferencias de sexo sólo en el tipo de dolencia que causó las bajas laborales de varones (el 50% son otorrinolaringológicas) y mujeres (el 50% son psiquiátricas) y en algunas de las correlaciones entre Estrés de Rol-Burnout y sintomatología psiquiátrica que fueran más altas en mujeres que en hombres. En conclusión, esta investigación apoya los resultados de otros estudios que no encontraban patrones distintos de estrés, burnout y depresión entre profesores y profesoras.

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**Palabras clave:** estrés docente, absentismo, burnout, depresión, diferencias de sexo

The significant level of symptomatology of stress, burnout and depression in the teaching profession has been recognized for several years now, and has been the subject of a variety of studies by various authors in several countries (Durán, Extremera, Rey, Fernández-Berrocal & Montalbán, 2006; Gil-Monte, Carlotto, & Gonçalves Câmara, 2011; Kyriacou, 2001; Kokkinos, 2007; Mearns & Cain, 2003; Montgomery & Rupp, 2005; Manassero, Fornés, Fernández, Vázquez & Ferrer, 1995; Steinhardt, Smith Jaggars, Faulk, & Gloria, 2011; Tang, Au, Schwarzer & Schmitz, 2001).

However, research focusing on sex differences in teacher uneasiness is few and is far from conclusive. Following is a summary of the conclusions reached in relevant studies dealing with the factor of sex and its relation to different indicators of teacher uneasiness.

### **Sex Differences in Symptomatology**

The different studies carried out on sex differences and teachers' health problems point in the same direction; female teachers seem to have a higher incidence of health problems and they tend to have different types of problems than male teachers, with more work absence for psychiatric causes.

In a study by Esteve (1987) regarding health problems in a sample of teachers, the amount of sick leave taken for health reasons was greater in women than in men (leaves for maternity and childbirth were included in this category). Male teachers had a higher incidence of digestive and cardiovascular illness, while in the women the neuropsychopathic, genitourinary and obstetric problems were considerably greater, although this margin is statistically conditioned by the author's inclusion of maternity leave.

Guerrero (1996) found a higher frequency in the female gender for leaves taken in all of the medical specializations analysed in a study carried out over the course of five school-years with teachers in Badajoz, a city in the south of Spain. In the specific case of leaves taken for psychiatric motives she discovered that in the categories of anxiety and depression disorders the rate for female teachers was more than double that of the male teachers.

The report carried out by Spanish Ministry of Education and Culture about The State of Spanish Education System in 1997-1998, pointed out that the total number of sick leaves taken by Primary and Secondary teachers in that academic year was 29107, of which 21234 were leaves taken by female teachers and 7873 were of their male counterparts. However, 60.7% of the teachers were women and 39.3% men.

In their studies about work-related stress and other health problems affecting teachers, Matud, García, and Matud (2002) found significant differences corresponding to sex in Primary and Secondary School teachers, with women showing more somatic symptomatology than their male counterparts and the men showing a higher incidence of allergic symptoms than women.

### **Sex Differences in Teacher Burnout**

As far as research that focuses on analysing the possible sex differences in the levels of work-related stress and burnout (Byrne, 1999; Eichinger, 2000), results are not so clear. Along with studies that show a higher rate of stress and/or burnout in women (Abraham, 1986; Martínez-Abascal & Bornás, 1992; Antoniou, Polychromi & Vlachakis, 2006), there are other studies showing a greater incidence of stress and burnout among men (Cordeiro et al, 2003; Manassero et al, 1995; Moreno-Jiménez, Garrosa & González, 2000) and yet other studies that reflect no significant difference in the level of stress and burnout in men and women (Capel, 1992; Eichinger, 2000; Matud et al., 2002).

Among the first group of studies is that of Abraham (1986), which shows a tendency for female teachers to have a higher rate of burnout, although the author points out the fact that it is difficult to rule out the possibility that this may be due in part to the women's tendency to have a greater acceptance of their emotional and affective problems, as opposed to the greater negation of these types of problems by men.

Similar results were obtained in a study performed by Martínez-Abascal and Bornás (1992) with a sample of 97 Primary School teachers. Considerable differences were found in this research between men and women with regard to the stress variable, measured with the *Teacher Stress Questionnaire* (TSQ), which indicated that a higher percentage of female

teachers considered the teaching profession to be very or extremely stressful. Approximately 66% of male teachers and 83% of women were found to have medium or high levels of stress.

Antoniou et al. (2006) in their study with 493 primary and secondary school teachers also found that female teachers experienced significantly higher levels of occupational stress, specifically with regards to three stress factors: “interaction with students and colleagues”, “teachers’ workload” and “students’ progress”. In addition, females reported higher levels of “emotional exhaustion” compared to their male counterparts.

However, some studies find a greater prevalence of total burnout in male teachers (Beer & Beer, 1992; Cordeiro et al., 2003; León-Rubio, León-Pérez & Cantero, 2013; Moreno-Jiménez et al., 2000). The meta-analysis carried out by Purvanova and Muros (2010) concluded that a differentiated expression of burnout dimensions exists depending on gender; women tended to score higher in *emotional exhaustion* and men in *depersonalization*. A widespread find is that of the higher incidence in men of the dimension *depersonalization*, in assistance professions in general (Maslach, Schaufeli & Leiter, 2001), as well as in the teaching profession (Byrne, 1991; Greenglass, Burke & Ondrack, 1990; León-Rubio et al, 2013; Manassero et al.,1995; Moreno-Jiménez et al., 2000; Rey, Extremera & Pena, 2012). Some studies have found higher levels of *lack of personal realization* in male teachers than in female teachers (León-Rubio et al, 2013). In the study of Lau, Yuen & Chan (2005) gender differences were found in all three burnout dimensions. Female teachers were significantly more burned-out in emotional exhaustion and personal accomplishment but were less depersonalizing than male teachers. Rey et al. (2012) in their sample of 727 teachers only found significant differences between men and women in the *depersonalization* dimension of burnout, as pointed out above, although they discovered differences in all dimensions of *work engagement*, with higher scores of women in *vigor*, *dedication* and *absorption*.

However, there are also some research exercises in which no significant sex differences in burnout were found (Capel, 1992). León-Rubio et al. (2013) did not find significant differences in the dimension *emotional exhaustion* in their simple of 578 teachers.

Some authors point out the possibility that stress and burnout levels are similar in both genders, but are caused by different factors, playing work

context variables an important role (León-Rubio et al., 2013). It is possible that men and women perceive in a different way work and organizational factors related to burnout.

### **Sex Differences in Teacher Depression**

Finally, regarding to another teacher uneasiness indicator, the level of depression, Martínez-Abascal and Bornás (1992) and Matud et al. (2002) have not discovered differences between female and male teachers in depressive symptomatology.

Therefore, although some studies seem to coincide in citing women as being more prone to suffering some of the symptoms derived from teacher uneasiness, the results are somewhat contradictory. This could be due to the disparity of the variables analysed and of the instruments used to assess these variables. What does seem clear though is the need to continue compiling data in the hope of determining whether sex does indeed play a role in the different ways teachers are affected by symptoms of their work-related health problems.

### **The Present Study**

The aim of this study, then, is to analyse with regard to sex variable the various indicators of teacher unwellness, which include absenteeism, work-related stress, symptoms of depression, burnout level and psychiatric symptomatology.

Due to the various approaches to the concept and measurement of burnout (Cox, Tisserand & Taris, 2005) we consider necessary to specify that, in this work, we are going to assume the burnout conceptualization that Maslach et al. (2001) propose. This conceptualization differentiates three components of burnout: *Exhaustion*, *Depersonalisation* and *Lack of Personal Accomplishment*.

After the literature review about this topic, we are expecting for a higher level of absenteeism among women, due to the usual sex differences in health problems. We also expect to find higher levels of burnout in male teachers than in the female teachers, particularly in the dimension *Depersonalization*, and similar levels of depressive symptoms in both sexes.

Finally, we hypothesised a greater level of psychical symptomatology among women teachers, and a different kind of health problems between both sexes.

## Method

### Participants

The sample consists of 71 teachers, 31 male and 40 female, of Secondary Education from three schools in the Comunidad de Madrid (Spain), with an average age of 42.87 (SD = 10.17) and 40.49 years (SD = 10.40) respectively. Table 1 gives some of the characteristics of the work situation of both groups.

The criteria for inclusion in the sample were that the respondents be teachers in one of these centres and that they participate voluntarily and anonymously in the research.

Table 1

*Work-related characteristics of male and female teachers of the sample*

<i>Characteristics</i>		<i>Men (n = 31)</i>		<i>Women (n = 40)</i>	
		<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Age at which teaching began	18-23 years	14	45.2	13	33.3
	24-29 years	16	51.6	21	53.8
	30 years or older	1	3.2	5	12.8
Number of groups taught	1-4	17	54.8	14	36.8
	5 or more	14	45.2	24	63.2
Number of students	Fewer than 60	13	41.9	10	25
	Between 60 and 240	15	48.4	29	72.5
	More than 240	3	9.7	1	2.5
Weekly hours of classes taught	Up to 20 hours	12	38.7	21	52.5
	More than 20 hours	19	61.3	19	47.5

(continued)

<i>Characteristics</i>		<i>Men (n = 31)</i>		<i>Women (n = 40)</i>	
		<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
Type of subjects taught	Humanities and Social Sciences	10	32.3	24	61.5
	Experimental and/or Health Sciences	6	19.4	6	15.4
	Technological Fields	12	38.7	5	12.8
	Other	3	9.7	4	10.3
Correspondence	Little or none	3	9.7	6	15
Formation-Subjects	Fair amount	8	25.8	10	25
	Much	20	64.5	24	60
Tutor	Yes	20	64.5	17	42.5
	No	11	35.5	23	57.5
Other responsibilities	Yes	12	38.7	13	33.3
	No	19	61.3	26	66.7

## Measures

To define operatively the variables selected in this research and to assess the levels of stress, burnout, symptoms of depression and psychiatric symptomatology, three validated instruments for self-evaluation were given to the participants along with a questionnaire designed by the investigators to furnish information about absenteeism and about the work situation of the teachers. These instruments are described below.

- *Questionnaire on Teacher Burnout (Cuestionario de Burnout del Profesorado) (CBP-R)* (Moreno-Jiménez, Garrosa & González, 2000). The CBP-R consists of three factors: Factor I (*Stress and Burnout*), Factor II (*Disorganization*) and Factor III (*Administrative Problems*). For this study we have used only the information from Factor I, which consists of two subcategories:
  - o Role stress, which analyses the stress caused by Role dysfunctions. This category includes 13 items, such as, “I find very stressful being attentive to the students’ individual

problems or needs” and “The requirements of my job are too high”.

- Burnout, which deals with those questions pertaining to the process of burnout and its three dimensions: *Emotional Exhaustion* (8 items, e.g. “Every day I feel anxious and strained when I go to work”), *Depersonalisation* (4 items, e.g. “I feel that students are the enemy”) and *Lack of Personal Realization* (7 items, e.g. “Generally I feel very happy with my job”).

The response categories were given on a 5-point scale ranging from “Absolutely disagree” to “Absolutely agree”.

As far as the reliability of the instrument as a whole, we obtained a very high rating of internal consistency Alpha – Cronbach ( $\alpha = .92$ ). Moreno-Jiménez et al. (2000) also obtained a very high reliability for the total scale ( $\alpha = .91$ ).

- *Symptoms Checklist-90-R (SCL-90-R)* (Derogatis, 1977). We used the Spanish version of the instrument, designed by Gonzalez de Rivera, De las Cuevas, Rodríguez-Abuin and Rodríguez-Pulido (2002). The SCL-90-R has ninety items and is divided into nine scales which evaluate nine dimensions of psychiatric symptomatology: *Somatization* (e.g., “Headache”, “Trouble getting your breathe”); *Obsession-Compulsion* (e.g., “Unwanted thoughts, words, or ideas that won’t leave your mind”, “Having to check and double-check what you do”), *Interpersonal Sensitivity* (e.g., “Feeling shy or uneasy with the opposite sex”), *Depression* (e.g., “Feeling low in energy or slowed down”), *Anxiety* (e.g., “Nervousness or shakiness inside”, *Hostility* (“Feeling easily annoyed or irritated”), *Phobic Anxiety* (e.g., “Feeling afraid in open spaces or on the streets”), *Paranoid Ideation* (e.g., “Feeling that most people cannot be trusted”) and *Psychoticism* (e.g. “The idea that someone else can control your thoughts”). The response categories were given on a 5-points scale ranging from “Not at all” to “Extremely”. This instrument also offers the option of calculating three global indexes of unwellness: The *Global Severity Index (GSI)*,

the *Positive Symptom Total (PST)* and the *Positive Symptom Distress Index (PSDI)*. The GSI, together with the average scores of the symptomatic dimensions, were the indexes we used in this study for those statistical analyses which included psychopathological symptomatology. A high level of internal consistency was also obtained in the application of the SCL-90-R in this study ( $\alpha = .96$ ). In the original instrument from Derogatis the Alpha coefficient values in the nine dimensions ranged from .81 to .90.

- *Beck Depression Inventory (BDI)* (Beck, Rush, Shaw & Emery, 1979). We used the self-administered model of this revised version of the inventory, adapted and translated by Vázquez and Sanz (1991). This inventory consists of twenty-one questions about how the subject has been feeling in the last week. Each question has a set of at least four possible answer choices, ranging in intensity. For example, (0) “I do not feel sad”, (1) “I feel sad”, (2) “I am sad all the time and I can't snap out of it”, (3) “I am so sad or unhappy that I can't stand it”. The current application of the inventory achieved an alpha of .78. In the Spanish version from Vázquez and Sanz (1991) the Alpha reliability coefficient was .83.
- A self-report questionnaire designed for the research, which provided relevant socio-demographic and work-situation variables (*age, gender, age at which the profession was begun, number of groups and students taught to, weekly hours of class given, field of knowledge of the subjects given, relation between subjects taught and the teacher's formation, whether the teacher is tutor of a group and whether he/she has any administrative role*) and data referring to absenteeism (*number of sick leaves taken the previous school year, number of days of these leaves, medical speciality to which these leaves were attributed, number of workdays missed but not officially considered leaves*).

## **Procedure**

We accessed to the sample after telephone and personal contact with the principals and other supervisors of five secondary schools located in the region of Madrid (Spain). In these contacts we informed the principals about

the objectives of the research and we evaluated their possibilities of collaboration. Finally, three of the five centres accepted to collaborate with the research. Two schools, one public and another subsidized belong to the urban area of Madrid and the third one is on the outskirts of the city.

Questionnaires were supplied to the person in charge in each school, who assumed the responsibility to inform to teachers about research aims and who distributed the assessment measures. The instruments were handed to teachers in an envelope that included the questionnaires, an instructions sheet and a little stamped envelope to return answered questionnaires. Instructions, according APA (American Psychological Association, 2002) guidelines to obtain informed consent from participants, informed about the nature of the research, the voluntarily and anonymously participation and about the confidentiality and only researching purpose to treat the data. Instructions about the way to answer the questionnaires and about its return were also included. Teachers were asked for return the answered questionnaires in a period of approximately fifteen days, through giving the questionnaires in a closed envelope to our person in charge in their centre or through sending us the questionnaires in the stamped envelope.

The data was processed using the program *SPSS* in its version 15.0 for Windows. The compiling of information as well as the communication and treatment of the data were done in accordance with the Public General Acts of Parliament (*Ley Orgánica 15/99 of December 13*), which establishes legal guidelines for the protection of personal data.

Due to the reduced and no-representative sample, results below and statistical analysis must be considered in a descriptive study context, whose contribution will not be to confirm the existence of sex differences in the researched population but to identify the most relevant dimensions in which it will be interesting to focus future research.

## **Data Analysis**

We used *t*-Student tests to compare means between two independent groups. In the case of significant results we present Cohen's *d* as effect size measures. Descriptive data present mean and standard deviation (MEAN ± SD). We set  $\alpha$ -level at 0.05, although when we did many tests with the same variables (i.e., *symptomatology* by *sex*) inside the same statistical framework

(*t*-test) we correct  $\alpha$ -level by Bonferroni in order to adjust for Type I error. We also employed Pearson's correlation.

## **Results**

The results shall be organized by analysing in the first place the data referring to the differences found between male and female teachers with regard to absenteeism and sick leaves. We will then describe the differences by sexes in the levels of stress and burnout, and finally, we will describe the differences found in symptomatology of depression and the various psychiatric symptomatology of the sample.

### **Sex Differences in Absenteeism**

Before beginning a description of the results referring to absenteeism, it should be remembered that the statistics regarding sick leaves do not include maternity leave or leave for giving birth.

Of the 31 men in the sample, 7 (22.6%) had taken a leave from work during the previous school year, with a total accumulation of 69 days of leave. Among the female teachers on the other hand, only 5 (12.8%) had taken leaves; although the number of leaves was lower, the workdays missed due to these leaves totalled 453. There is not a significant statistical difference in the average number of days missed due to sick leave for men ( $M = 2.23$ ;  $SD = 5.65$ ) and women ( $M = 11.33$ ;  $SD = 40.2$ ) and there is a small size effect (Cohen, *d*) ( $t = 1.41$ ;  $p = 0.165$ ;  $d = 0.32$ ).

As far as the causes for the leaves taken (Table 2), the most common cause for taking leave among men was otorhinolaryngology problems (5 leaves for this cause, with an accumulation of 49 days missed), whereas no leaves had been taken the previous school year for psychiatric causes. The female teachers on the other hand had taken the majority of their leaves for psychiatric causes (4 leaves taken for this reason, with a total of 301 days missed), with the second most common cause being traumatological (2 leaves, 104 days total).

Table 2

*Number of leaves and days of leaves for different types of illness in men and women*

Type of illness	Number of Leaves				Days of Leave			
	Males		Females		Males		Females	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1.Cardiovascular	0	0	0	0	0	0	0	0
2.Gynecology	0	0	0	0	0	0	0	0
3.Psychiatric	0	0	4	50%	0	0	301	66.4%
4. Infections	0	0	0	0	0	0	0	0
5.Hematology	0	0	0	0	0	0	0	0
6.Organ-Neurology	0	0	1	12.5%	0	0	45	9.9%
7.Otorhinolaringology	5	50%	0	0	49	71%	0	0
8.Traumatology	1	10%	2	25%	3	4.3%	104	23%
9.Digestive	1	10%	1	12.5%	7	10.1%	3	0.7%
10.Ophthalmology	0	0	0	0	0	0	0	0
11.Urology-Renal	1	10%	0	0	4	5.8%	0	0
12.Endocrino- Metabolical	0	0	0	0	0	0	0	0
13 .Respiratory	1	10%	0	0	3	4.3%	0	0
14. Dermatology	0	0	0	0	0	0	0	0
15. Others	1	10%	0	0	3	4.3%	0	0
TOTAL	10	100%	8	100%	69	100%	453	100%

The study also inquired of the teachers the number of workdays missed that were not part of a leave. This data provides some interesting information: 31% (9 cases) of the men had missed some workdays, whereas 55.3% of the female teachers (21 cases) reported absences from work. The days missed by the men totalled 30 and those by the women, 65. There is not a significant statistical difference in the average number of days missed by male teachers ( $M = 1.03$ ;  $SD = 1.88$ ) and women teachers ( $M = 1.71$ ;  $SD = 3.02$ ), and there is a small size effect ( $t = 1.06$ ;  $p = 0.293$ ;  $d = 0.27$ ).

**Sex Differences in Levels of Stress and Burnout**

Table 3 shows the data corresponding to men and women regarding the incidence of Role Stress, Burnout and the three specific dimensions of burnout: Emotional Exhaustion, Depersonalisation and Lack of Personal Accomplishment. As can be observed, in all measurements of stress and burnout assessed by this instrument the percentage in “high” level was greater for men than for women.

Table 3

*Levels of stress and burnout among male and female teachers*

CBP-R		Males (n = 31)		Females (n = 40)	
		n	%	n	%
Role stress	High	10	33.3	11	30.6
	Medium	15	50	20	55.6
	Low	5	16.7	5	13.9
Burnout	High	9	31	6	16.2
	Medium	14	48.3	17	45.9
	Low	6	20.7	14	37.8
Emotional Exhaustion	High	15	48.4	12	32.4
	Medium	10	32.3	12	32.4
	Low	6	19.4	13	35.1
Depersonalization	High	8	25.8	8	20
	Medium	13	41.9	21	52.5
	Low	10	32.3	11	27.5
Lack of Personal Accomplishment	High	7	24.1	4	10.3
	Medium	10	34.5	12	30.8
	Low	12	41.4	23	59

As far as the average scores obtained by men and women (Table 4) in these measures, none of the means differences can be considered statistically significant, and none of the size effects is of a moderate magnitude.

Table 4

*Means, standard deviations and differences by sexes of stress and burnout*

Stress and burnout indices	Males		Females		<i>t</i>	<i>p</i>	<i>d</i>
	M	SD	M	SD			
Role Stress	2.81	0.61	2.85	0.54	0.30	.77	0.07
Burnout	2.22	0.54	2.05	0.61	1.18	.24	0.30
Emotional Exhaustion	2.49	0.60	2.36	0.81	0.72	.47	0.18
Depersonalization	1.73	0.57	1.72	0.55	0.11	.91	0.02
Lack of Personal Accomplishment	2.17	0.70	1.93	0.61	1.52	.13	0.37

\*  $\alpha$ -level was set by Bonferroni correction for 5 tests (critical value,  $p = .01$ )

### Sex Differences in Depression

This study used two different measurements to assess levels of depressive symptomatology, the BDI and the subscale “Depression” of the SCL-90-R. Table 5 shows the results that these measurements gave for men and women in the sample.

Table 5

*Levels of depression symptomatology in males and women*

		Males ( <i>n</i> = 31)		Females ( <i>n</i> = 40)	
		<i>n</i>	%	<i>n</i>	%
Depression BDI	Moderate Depression	1	3.2	0	0
	Mild Depression	6	19.4	8	20.5
	No Depression	24	77.4	31	79.5
Depression SCL-90-R	High	8	25.8	10	26.3
	Medium	13	41.9	13	34.2
	Low	10	32.3	15	39.5

It can be observed here how there is scarcely a difference in the presence of men and women in the different levels of depression symptomatology. An

analysis of the average scores obtained by the two groups shows that men received a mean in the BDI of 5.97 (SD = 4.71), while women received a mean of 6.21 (SD = 4.42), a difference which cannot be considered statistically significant. ( $t = 0.22$ ;  $p = 0.83$ ;  $d = 0.05$ ). The results from the subscale of depression symptomatology of the SCL-90-R point in the same direction; the men obtained a mean of 0.57 (SD = 0.44) whereas the mean for the women was 0.74 (SD = 0.60), a difference of means that is not of statistical significance ( $t = 1.28$ ;  $p = 0.20$ ;  $d = 0.32$ )

**Sex Differences in Other Symptomatology**

The results that refer to the differences between male and female teachers in the symptomatology reports (Table 6) show that there are no significant differences between men and women in the levels of symptomatology assessed by SCL-90-R.

Table 6

*Levels of psychiatric symptomatology in male and female teachers*

SCL-90-R		Males ( $n = 31$ )		Females ( $n = 40$ )	
		<i>n</i>	%	<i>n</i>	%
Global Severity Index	High	10	32.3	12	31.6
	Medium	11	35.5	11	28.9
	Low	10	32.3	15	39.5
Somatization	High	10	32.3	11	28.9
	Medium	11	35.5	16	42.1
	Low	10	32.2	11	28.9
Obsession-Compulsion	High	11	35.5	18	47.4
	Medium	11	35.5	13	34.2
	Low	9	29	7	18.4

(continued)

SCL-90-R		Males ( <i>n</i> = 31)		Females ( <i>n</i> = 40)	
		<i>n</i>	%	<i>n</i>	%
Interpersonal Sensitivity	High	9	29	13	34.2
	Medium	16	51.6	13	34.2
	Low	6	19.4	12	31.6
Anxiety	High	8	25.8	10	26.3
	Medium	10	32.3	13	34.2
	Low	13	41.9	15	39.5
Hostility	High	6	19.4	4	10.5
	Medium	14	45.2	30	78.9
	Low	11	35.5	4	10.5
Phobic Anxiety	High	8	25.8	9	23.7
	Medium	7	22.6	12	31.6
	Low	16	51.6	17	44.7
Paranoid Ideation	High	11	35.5	12	31.6
	Medium	7	22.6	12	31.6
	Low	13	41.9	14	36.8
Psychoticism	High	11	35.5	15	39.5
	Medium	14	45.2	11	28.9
	Low	6	19.4	12	31.6

With regard to the average scores obtained by men and women in the different scales of psychiatric symptomatology (Table 7), we did not find considerable differences in terms of sexes.

Table 7

*Means, standard deviations and differences in psychiatric symptomatology by sexes*

SCL-90-R	Males		Females		<i>t</i>	<i>p</i>	<i>d</i>
	M	SD	M	SD			
Global Severity Index	0.45	0.31	0.57	0.45	1.30	.20	0.31
Somatization	0.46	0.43	0.81	0.85	2.24	.03	0.52
Obsession-Compulsion	0.65	0.49	0.80	0.61	1.07	.29	0.27
Interpersonal Sensitivity	0.50	0.48	0.49	0.43	0.07	.95	0.02
Anxiety	0.38	0.33	0.58	0.62	1.65	.10	0.40
Hostility	0.34	0.43	0.34	0.27	0.02	.98	0.00
Phobic Anxiety	0.18	0.27	0.23	0.33	0.74	.47	0.17
Paranoid Ideation	0.47	0.50	0.48	0.43	0.08	.93	0.02
Psychoticism	0.30	0.37	0.29	0.33	0.16	.88	0.05

\*  $\alpha$ -level was set by Bonferroni correction for 9 tests (critical value,  $p = .005$ )

As far as the relationships found between dependent variables of the study, Table 8 shows correlation coefficients separately by sexes. As it may be noticed, significant correlations between dependent variables are mostly positive like it could be expected. There are a higher number of significant correlations for women than for men between Role Stress and the dimensions of Symptomatology assessed by SCL-90-R and between Burnout and this psychiatric symptomatology.

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Table 8

*Correlations between dependent variables of the study by sexes*

SEX	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MEN	1.ROLE STRESS	1	,676 **	,559 **	,569 **	,718 **	,254	,446 *	,108	-,097	,080	,115	,227	-,055	,112	-,147	,143
	2.Emotional exhaustion	,676 **	1	,503 **	,586 **	,871 **	,380 *	,466 **	,215	,011	,076	,191	,381 *	-,139	,229	,069	,255
	3.Depersonalization	,559 **	,503 **	1	,573 **	,749 **	,084	,083	-,113	-,190	-,084	,007	,097	-,004	-,090	-,244	-,090
	4.Lack of personal accomplishment	,569 **	,586 **	,573 **	1	,882 **	,210	,106	-,221	-,249	-,077	-,028	,063	-,286	-,105	-,378 *	-,194
	5.BURNOUT	,718 **	,871 **	,749 **	,882 **	1	,290	,286	-,031	-,151	-,028	,069	,231	-,195	,034	-,204	,005
	6.DEPRESSION BDI	,254	,380 *	,084	,210	,290	1	,622 **	,545 **	,206	,569 **	,246	,387 *	,201	,000	,136	,511 **
	7.Somatization	,446 *	,466 **	,083	,106	,286	,622 **	1	,693 **	,198	,448 *	,537 **	,638 **	,387 *	,364 *	,510 **	,773 **
	8. Obsession-compulsion	,108	,215	-,113	-,221	-,031	,545 **	,693 **	1	,509 **	,678 **	,601 **	,451 *	,492 **	,448 *	,582 **	,873 **
	9. Interpersonal sensitivity	-,097	,011	-,190	-,249	-,151	,206	,198	,509 **	1	,744 **	,118	,219	,330 **	,604 **	,330 **	,652 **
	10. Depression	,080	,076	-,084	-,077	-,028	,569 **	,448 *	,678 **	,744 **	1	,413 *	,356 *	,390 *	,298	,225	,754 **
	11. Anxiety	,115	,191	,007	-,028	,069	,246	,537 **	,601 **	,118	,413 *	1	,482 **	,446 *	,320	,418 *	,656 **
	12. Hostility	,227	,381 *	,097	,063	,231	,387 *	,638 **	,451 *	,219	,356 *	,482 **	1	,292	,498 **	,382 *	,666 **

(continued)

SEX	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	13.Fobic anxiety	-,055	-,139	-,004	-,286	-,195	,201	,387	,492	,330	,390	,446	,292	1	,238	,548	,615
								*	**		*	*				**	**
	14.Paranoid ideation	,112	,229	-,090	-,105	,034	,000	,364	,448	,604	,298	,320	,498	,238	1	,565	,640
								*	*	**		**	**			**	**
	15.Psycoticism	-,147	,069	-,244	-,378	-,204	,136	,510	,582	,330	,225	,418	,382	,548	,565	1	,692
					*			**	**			*	*	**	**	**	**
	16.GLOBAL SEVERITY INDEX	,143	,255	-,090	-,194	,005	,511	,773	,873	,652	,754	,656	,666	,615	,640	,692	1
							**	**	**	**	**	**	**	**	**	**	**
WOM EN	1.ROLE STRESS	1	,663	,671	,374	,641	,659	,632	,626	,363	,694	,659	,545	,405	,438	,436	,703
			**	**	*	**	**	**	**	*	**	**	**	*	**	**	**
	2.Emotional exhaustion	,663	1	,699	,690	,946	,460	,413	,409	,347	,494	,505	,232	,293	,559	,301	,512
		**		**	**	**	**	*	*	*	**	**	**	**	**	**	**
	3.Depersonalization	,671	,699	1	,605	,800	,564	,360	,442	,382	,362	,293	,276	,393	,445	,286	,433
		**	**		**	**	**	*	**	*	*	*	*	*	**	**	**
	4.Lack of personal accomplishment	,374	,690	,605	1	,866	,306	,321	,192	,069	,254	,254	,161	,153	,359	,180	,297
		*	**	**		**		*							*		
	5.BURNOUT	,641	,946	,800	,866	1	,498	,456	,422	,336	,486	,460	,269	,314	,564	,326	,524
		**	**	**	**		**	**	*	*	**	**			**	**	**
	6.DEPRESIÓN BDI	,659	,460	,564	,306	,498	1	,644	,683	,464	,743	,643	,450	,627	,566	,619	,776
		**	**	**	**	**		**	**	**	**	**	**	**	**	**	**
	7.Somatization	,632	,413	,360	,321	,456	,644	1	,663	,486	,774	,735	,505	,435	,495	,643	,868
		**	*	*	*	**	**		**	**	**	**	**	**	**	**	**
	8.Obsesión-compulsión	,626	,409	,442	,192	,422	,683	,663	1	,610	,748	,572	,579	,344	,626	,691	,823
		**	*	**	*	*	**	**		**	**	**	**	*	**	**	**
	9.Interpersonal sensitivity	,363	,347	,382	,069	,336	,464	,486	,610	1	,620	,518	,340	,461	,813	,753	,727
		*	*	*		*	**	**	**		**	**	*	**	**	**	**

(continued)

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SEX	Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	10.Depression	,694 **	,494 **	,362 *	,254	,486 **	,743 **	,774 **	,748 **	,620 **	1	,791 **	,496 **	,485 **	,692 **	,756 **	,933 **
	11.Anxiety	,659 **	,505 **	,293	,254	,460 **	,643 **	,735 **	,572 **	,518 **	,791 **	1	,350 *	,661 **	,583 **	,693 **	,863 **
	12.Hostility	,545 **	,232	,276	,161	,269	,450 **	,505 **	,579 **	,340 *	,496 **	,350 *	1	,113	,372 *	,392 *	,539 **
	13.Fobic anxiety	,405 *	,293	,393 *	,153	,314	,627 **	,435 **	,344 *	,461 **	,485 **	,661 **	,113	1	,490 **	,523 **	,605 **
	14.Paranoid ideation	,438 **	,559 **	,445 **	,359 *	,564 **	,566 **	,495 **	,626 **	,813 **	,692 **	,583 **	,372 *	,490 **	1	,696 **	,762 **
	15.Psoticism	,436 **	,301	,286	,180	,326	,619 **	,643 **	,691 **	,753 **	,756 **	,693 **	,392 *	,523 **	,696 **	1	,849 **
	16.GLOBAL SEVERITY INDEX	,703 **	,512 **	,433 **	,297	,524 **	,776 **	,868 **	,823 **	,727 **	,933 **	,863 **	,539 **	,605 **	,762 **	,849 **	1

## Discussion

The first noteworthy result of this study is the confirmation of differences between men and women in the data referring to absenteeism (although we should keep in mind the fact that the information comes from the subjects' self-evaluation and not from official sources). Women were not found to have more frequent work leaves than men due to illness, unlike in the study of Esteve (1987), but this difference is most likely due to the fact that maternity leave, included in Esteve's study, was eliminated in our consideration of leave. However, although the number of sick leaves taken by female teachers in our study is smaller, the number of days taken on those leaves is considerably higher, as is the number of days that women missed work without it being a leave. The absence of significant differences between men and women in these variables can be due to the reduced size of the sample, what do not permit us to take out conclusions that can be applied to the teachers' population. However it is possible to point out some dimensions of analysis about work-related teachers' absenteeism that can be interesting to confirm in the future. This is, if this problem of absenteeism is greater among the female teachers than among the men. It can be also very relevant to analysed if individual differences in absenteeism can be related to the role of several gender variables (childcare obligations, work load, work attitudes, etc.) more than the sex variable. In fact, Bekker, Croon, and Bressers (2005) have found, in a sample of nurses, that sickness absence was not higher in women. In particular they found that work-load as well as care-load appeared to predict sickness absence.

This study confirms the differences between women and men in the types of illness that tend to cause them to take sick leave, with a greater number of psychiatric problems present in the female teachers, a result that coincides with the findings of other studies (Esteve, 1987; Guerrero, 1996). In our sample, it is the psychiatric problems in fact that are responsible for the greatest number of days missed on sick leave. This result is coherent with the fact of a greater proportion of psychiatric problems among women in the adult population. In fact, our data do not show a significant difference between men and women in psychiatric symptoms, but we have found significant correlations between teacher stress and burnout with psychiatric

symptoms among women, and no significant correlations between these variables in the case of men.

A conclusion, derived from the findings commented on above, and coinciding with other previous research, can be drawn. This is, male and female teachers suffer a similar level of teacher uneasiness. Depending if the teacher is female or male, the uneasiness could manifest differently. Particularly, there are differences in psychiatric symptoms related to teacher stress or burnout. Among women this relationship seems to be stronger than in men. There are also differences in the various types of medical problems that affect male and female teachers.

One of the more interesting objectives of the research however was to try to shed new light on the contradictory results that had emerged regarding the differences in the levels of stress and burnout in men and women. Although, as we have hypothesized scores in burnout and in its three dimensions are higher among men, our data does not show significant differences between the groups in the average levels of burnout or role stress, and the size effects are small.

Our findings do not coincide, then, with other studies that show differences between men and women in levels of burnout (Cordeiro et al., 2003; Greenglass et al, 1990; Manassero et al, 1995; Moreno-Jiménez et al, 2000), because of our research indicates very similar scores in this dimension in both sexes, in the direction that Eichinger (2000) pointed out. Eichinger (2000) as well as other authors recently, assert that maybe, better than focusing research on biological differences between men and women, it would be interesting to develop studies on gender orientation in coping styles that both, men and women, use to handle the environmental demands.

And finally, this study does not show significant differences in the symptomatology of depression between men and women, thus coinciding with the study carried out by Matud et al. (2002). This result is interesting because it is established the higher prevalence of depressive disorders among women in general population (WHO, 2000). The lack of significant differences in our research can be due, as we said above, to little sample size. However, to the extent that this result coincide with the results of another studies it can be possible to think about another reasons. This is, it would be that teachers' population do not reproduce psychopathological patterns of the general population, not only because teachers present a bigger

percentage of mental health problems, but also because of changes in the relation men-women in the incidence rates of these problems. Also, it can be possible that the characteristic processes and particular dimensions of a high index of burnout would be the variables that contribute to diminish differences between people affected by them.

It is necessary to continue this line of research in the future. Only then will we be able to confirm the presence or absence of sex differences in problems involving work stress and determine which variables could explain the contradictory results obtained regarding these problems.

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## **Interthinking: Putting Talk to Work**

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## Review

Littleton, K. and Mercer, N. (2013). *Interthinking: Putting Talk to Work*. Abingdon: Routledge.

Many researchers and educators writing about sociocultural theory have thought about Vygotsky's deservedly famous idea about the development of children's thinking and learning:

Any function in the child's cultural development appears twice, or on two planes. First it appears on the social plane, and then on the psychological plane. First it appears between people as an interpsychological category, and then within the child as an intrapsychological category. This is equally true with regard to voluntary attention, logical memory, the formation of concepts, and the development of volition....(Vygotsky, 1981: 163)

Latterly, researchers such as Mercer (2000) have preferred to make use of intermental (for interpsychological) and intramental (for intrapsychological). This is more than an issue of translation; if the 1981 terms are persisted with, we would have the paradox that psychology is implicitly restricted to the individual, at the very point where Vygotsky wanted to stress the foundational role of social interaction.

Yet, as Littleton and Mercer point out in their new book, the traditional stress on the individual, whether in psychology, or education, where both are put together in educational psychology, lastingly persists. Even where interest does lie in processes of collaborative learning, this is usually deployed in the service of investigating the subsequent achievements and understandings of the individual. This book takes a different tack, investigating collaborative talk in the pursuit of collective intellectual endeavour, a process they call "interthinking." It is convincingly demonstrated that however surprising it may be, this topic has received little treatment in sociocultural research.

This elegantly written book draws attention to some historical reasons underlying the relative neglect of this concept. For example, in discussing theories of evolutionary psychology Littleton and Mercer point out that it is generally agreed that one very important capacity underlying the development of humankind is that of understanding a situation from another person's point of view (whether or not this idea takes the form of "theory of mind"). However, this sensible hypothesis is far more frequently recruited into explanations of competition and individualised pursuit of specific goals rather than investigations into people working together for common goals.

This is just one of the ways in which psychology's traditional interest in the individual mind has operated, steering psychologists, linguists, educationalists and others away from a focus on collective thinking. Yet the need to examine how people can use language to work together effectively in groups can never have been more vital. Littleton and Mercer draw on many years' practical work with teachers, encouraging them to understand different forms of collective talk. Based itself on extensive research and convincing analyses, they identify cumulative, disputational and exploratory types of talk, showing carefully how effective discourses can be fostered. Again building on much previous work the authors explain the usefulness of agreeing ground rules to underpin productive group discussion.

Language then is at the heart of their endeavour, and in my view it is helpful, although not perhaps vital, that Littleton and Mercer describe their approach to analysing discourse as sociocultural discourse analysis (SCDA). Very likely "discourse analysis" as a term has perhaps become too broad an umbrella term to remain useful. Littleton and Mercer propose that the characteristics of SCDA are interests in:

- how common knowledge is constructed over time;
- how language is deployed in the pursuit of a shared goal;
- the cultural and historical knowledge that participants draw upon.

They combine quantitative and qualitative techniques including fascinating transcripts of data from diverse domains. Apart from the central and expected focus on classroom talk there are insights from other domains of activity such as jazz musicians rehearsing together. Data is carefully situated so that we understand enough of participants' cultural understandings, institutional framings and goals to benefit fully from the analyses. A strength of the book is that communication among people is not

presented as if occurring in overly simplified environments; on the contrary technologies are often shown to be involved as mediational.

The book is written in an accessible style. The authors have pulled off the wonderful trick of presenting a genuinely innovative framework of understanding in a lucid, elegant manner. This is a cleverly interwoven contribution to theory and practice.

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