

Justice in grades allocation: teachers' perspective

Nura Resh

Received: 7 January 2008 / Accepted: 5 September 2008 / Published online: 5 December 2008
© Springer Science+Business Media B.V. 2008

Abstract In this investigation I explore teachers' perspectives on just grade allocation. The study was carried out among language, math and science teachers in a national sample of Israeli high schools, where teachers were required to weigh a set of considerations that are used in the decision on grade allocation. Findings suggest that (a) a teacher's decision is based on a weighted combination of multi-principles of allocation, (b) equity by output (students proved academic success) is the ruling consideration, and (c) the weight given to the various considerations differ by teachers' subject matter expertise. The appeared difference placed science teachers vis-à-vis math and language teachers, unlike the expected humanities (language)—sciences (math and science) dichotomy. Comparison of grading considerations by student capacity suggests that about half of the teachers consider differential grading considerations for “weak” and “strong” students as just, attributing greater weight to academic input (effort) and need for encouragement when grading their “weak” students.

Keywords Distributive justice · Justice in schools · Grade allocation · Teachers' evaluation · Teaching expertise

1 Introduction

Education in general and school, in particular, are scenes of constant justice distribution (Deutsch 1979; Walzer 1983; Connell 1993). On the macro level, educational

N. Resh (✉)

School of Education, NCJW Research Institute for Innovation in Education, Hebrew University of Jerusalem, Mt. Scopus, Jerusalem 91905, Israel
e-mail: msnura@huji.ac.il

resources—buildings, equipment, money and manpower—are distributed by the State, local authorities, or private organizations, pending upon national policies that define how and to whom these resources should be distributed. Within schools, teachers are a major agent of reward (and punishment) allocation: they evaluate students' academic performance and learning behavior, sort them into classrooms, instructional groups, or tracks, and grant grades and certificates. Teachers and peers also offer (or withhold) praise, support, help, encouragement and esteem, which become an integral component of students' educational experience. Despite the important role of distributive justice in the daily life of formal educational settings, relatively little attention has been given to the ideal (*ought*) and actual (*is*) distribution of educational goods (or bads) and to the possible effects of such distribution on students' experience, attitudes and eventual educational career (Resh and Sabbagh 2009).

Contending that grades is a major and highly valued distributed good in school, I focus in this paper on teachers' considerations in grade allocation, investigating the following questions:

1. What combination of allocation rules do teachers apply when grading their students' performance?
2. Are these rules differentiated by teachers' disciplinary expertise?
3. Are these rules differentiated by students' capacity ("strong", "weak")?

2 School grades as a reward

Grading students on a standardized hierarchical scale (usually numerical) is an institutionalized means of evaluating their academic performance and a very meaningful signpost in students' educational experience. First, grades have a gatekeeping function, providing or withholding access to particular classes (ability grouping, tracks) and schools, as well as to higher education (Dauber et al. 1996; Entwisle and Alexander 1993; Resh 1998; Schiller 1999; Vanfossen et al. 1987).¹ Evidence also suggests that grades may have a long-term effect on earnings: employers are using them as a sign of potential candidates' ability and perseverance (Miller 1998).

Second, by providing feedback about students' academic performance and learning behavior, grades shape their self-image, motivation, and expectations, as well as their parents' expectations and aspirations for them, ultimately affecting future learning behavior and the probability of dropping-out or graduating from high school (Brantlinger 1993; Butler 1987, 1988; Ensminger and Slusarcick 1992; Entwisle and Hayduk 1982; Farkas et al. 1990; Nissan 1982; Roscingo and Ainsworth-Darnell 1999; Seginar 1983; Entwisle et al. 2007). Third, because grades are public, they create a status hierarchy within the classroom, affecting social acceptance, friendship formation, and the student's "popularity" (Hallinan and Kubitschek 1990; Schwarzwald and Fridle-Cohen 1984). Finally, Dreeben (1967) and Deutsch (1979) argue that, beyond instrumental and psycho-social influences, grading practices have a latent effect: they

¹ In Israel, for example, school grades at the end of junior high school (9th grade) are a major determinant of track placement in high school; and grades in the senior year of high school constitute 50% of the final score in the matriculation certificate, a prerequisite for higher education.

inculcate important values and norms of behavior that prevail in the wider society. "Unfair" distribution of grades not only increases a sense of injustice among students, but may also contribute to the shaping of their world views and the "social map" they construct in their mind.

It is not surprising, therefore, that grades are a highly valued good and the process of their allocation looms large in student's justice life: self or other is under-rewarded or over-rewarded, this or that grade is unfair, and so on (Dar and Resh 2001; Deutsch 1975; Jasso and Resh 2002; Nissan 1982). Grade allocation looms large also in teachers' professional experience: It is a significant component in their teaching practices, thus discourse about the "proper" criteria to be used in grading is not rare. Also frequent are students' disagreements with teachers about what is, or is not, a "fair" evaluation, as well as their judgment of their teachers' actual allocation.

3 Justice in grading

Justice, like beauty, is in the eye of the beholder: it is the subjective judgment of an individual that the reward he or she actually gets is the one he or she deserves, and sense of injustice arises when there is a gap between the actual and the "deserved" reward (over- or under-reward). "Deservedness" is usually determined following accepted norms that govern the distribution of any particular reward. Congruent with the meritocratic ethos, equity is the guiding principle of grades' distribution, and the principle of need (e.g., the student's need for encouragement) may also affect teachers' considerations (Nissan 1985; Dushnik and Sabar Ben-Yehoshua 2000; Sabbagh et al. 2006). The strong consensus regarding this principle notwithstanding its implementation varies with respect to the specific rule employed by teachers in the grading process: talent, knowledge exhibition in tests or in class-work, effort and class behavior or some weighted combination thereof. These various bases for meritocratic distribution can be placed on a continuous scale, the common denominator of which is the degree of differentiation it creates among rewardees. The 'talent' rule is highly differentiating, as it allocates grades on the basis of innate talents, which are naturally determined and beyond the individual control or moral responsibility. Effort and class learning behavior are somewhat less differentiating, as they rely also on motivation and investment, which are available to most people and depend on the individual decision, and introducing the principle of need adds an equalizing component to the grades (Sabbagh et al. 1994; Sabbagh 2001).²

Hence, my first aim in this study is to investigate teachers' considerations in determining grades allocation to their students. That is, *what rule or weighted combination of rules do they see fit to apply in grading their students?*³

This general frame of guiding rules for grading notwithstanding, teachers' principle preferences may not be applied universally but rather vary in different conditions or professional contexts. In this regard, I refer here specifically to differentiating

² In any event, using some ascriptive rule like, in-born characteristics (beauty, color, gender) or particular merits (teacher's pet, kinship ties) is usually considered as not legitimate.

³ Since it is hard to believe that teachers will answer differently to separate questions about how they think they *ought* to determine a student's grade (just grading) and how they *actually* grade their students, teachers were asked about their actual practice, which I assume reflects their vision of the just pattern of grading.

grading considerations according to (a) teacher's professional subject matter expertise (attribute of the locator) and (b) student capacity (characteristic of rewardee).

3.1 Subject matter expertise

Tyack and Tobin (1994) describe the political, economical and social interest groups that were involved in the institutionalization of disciplinarian teaching in high school at a specific point of the American educational history. The historical-contextual analysis notwithstanding, this division into distinct disciplinary departments is based on the strong notion that subjects have an inherent inner "structure of knowledge" (Bruner 1960). The inner structure of a subject matter effects the decision on content to be taught as well as pedagogical patterns implemented in their teaching including the pattern of students' evaluation (Siskin 1994; Stodolsky 1993; Grossman and Stodolsky 1995; Resh and Kramarski 2007). Hence, teachers' socialization and professional development are differentiated by subject-matter, and school staff is organized accordingly in disciplinary departments, especially in high schools (McLaughlin et al. 1990).

Especially established is the dichotomous categorization of science versus humanities. Sciences are characterized by a "closed" structure, where knowledge is hierarchical thus must be learned in continuous specific order that requires much by rote learning and exercising, while the humanities are more "open", containing knowledge of a modular nature that could be studied in a more flexible manner, open for curricular changes, and pedagogical variations (Dar 1985; Pollio 1996; Stodolsky and Grossman 2000).

3.2 Student capacity

Discussing the fair allocation of teacher's attention, Jencks (1988) put forward the 'pro' and 'con' arguments for equal or differential allocation to 'weak' and 'strong' students. These arguments echo the ongoing endemic dilemma of universal versus differential treatment that is embedded in the definition of teacher's role and teaching practices (Lortie 1975). On the one hand, teachers are expected to treat students equally and to apply universal criteria in learning demands and in evaluation of its outcomes. Moreover, Dreeben (1967) argues that this is a basic structural feature of schools aimed at inculcating in students the universalistic norm which will serve them as adults in the wider society.

On the other hand, teachers are requested to be sensitive to students' personal needs and attenuate their pedagogical activity accordingly ("to put the child in the center"). Hence, the necessity for professional discretion that is enabled also by the structural feature of teachers' work which is carried out behind the classroom closed door (e.g., Bidwell 1965; Lortie 1975). Differential treatment, resulting from teachers' concern and understanding of differential needs, may be reflected also in evaluation practices where teachers allocate grades based on differential combination of weights given to various considerations in grading 'weak' and 'strong' students.⁴

⁴ Teachers may also differentiate treatment for other reasons, for example, personal liking (teacher's pet), ethnic or socioeconomic discrimination. In general, there is a strong consensus that such differentiation is illegitimate (i.e., unjust).

4 Research design

The teachers' investigation was carried out in Israel, accompanying the PISA project, where 15 years old students (mostly 10th graders) were tested in language, mathematics and science literacy. The Israeli PISA team offered and the Ministry of Education chief scientist agreed to support an investigation of teachers that would be carried out separately, but in parallel to the students' testing: use the same national sample of schools and include high school teachers of the three tested subject matters.

Hence, the PISA national school sample of 165 schools served as the base for the teachers' sample. In each school three teachers—one in each of the tested subjects—were selected and asked to complete an anonymous questionnaire investigating their professional beliefs, attitudes, and pedagogical practices along with their professional background. A total of 380 teachers, 73% of the original sample, answered the questionnaire, and out of them 372 defined their teaching specialty: 126 language teachers, 120 mathematics teachers, and 126 science teachers.

In regard to grading practice, teachers were asked to attribute the relative weight (in percents) to a set of five possible considerations they would use in determining the grades students will get: four equitarian considerations—talent, academic success (e.g., in tests), learning effort, learning behavior in class, and the fifth represents the need principle—need for encouragement. Teachers were instructed to make sure that the weight given to the different considerations summed up to 100% and that any consideration they think should not be taken into account, could be avoided (i.e., assigned 0%). Teachers were also given the opportunity to offer another criterion(s) (and its weight) for consideration in grading students, which was used by few dozen teachers.

In the analysis, these considerations were recoded into 3 categories that represent different distributive rules: (1) performance (ability and academic success); (2) effort (learning effort and class behavior); and (3) need (need for encouragement).

Teachers were further asked to choose between two options of just grade allocation: universal grading, i.e., all students are evaluated on a universal scale, or differential evaluation, where somewhat different considerations guide the grading of “weak” and “strong” students. Those who chose the second option as the fairer one, were asked then to allocate weights to the above five considerations in grading each of the students' groups.

5 Findings

Checking first the content of the suggested “other” consideration, it was found that most of them could be integrated into one of the existing considerations. It is interesting to note that two considerations were repeatedly brought up, in few cases even given considerable weight: order (e.g., being well organized, having tidy notebooks) and presence in class (not missing/skipping classes). Truancy and lack of organized learning material may be a burden on fluent teaching pace, but also represent contempt for the teacher, the subject, or for learning in general. Teachers may thus see fit to use the grade as a threat on the student either as a sanction or in the hope that it may “call him/her to order”. These factors were combined with the “class learning behavior” consideration.

Table 1 Pattern of grades' allocation: Average weight (in percent) attributed to various considerations in grade allocation (SD in brackets)

Consideration (weight in percents)	Teachers	Students
Performance (output)	66.87(18.96)	61.35
Effort/learning behavior (input)	25.52(17.67)	33.22
Need	6.61(6.68)	5.42

In Table 1, the average weight attributed by teachers to the three categories of considerations are presented next to students' responses to a similar question about just grading.⁵

Three conclusions are important to note from this table:

First, it is obvious that evaluation is the result of combined considerations. Most of the teachers used at least four considerations (in differential weights) in their response and only few gave the entire weight (100%) to one or two considerations disregarding the others. Second, as could be expected, performance is by far the major factor in determining student's grades, though student's input (investment in learning) is not a neglected factor either. Finally, it is also interesting to see that the pattern of just grade allocation is basically similar for teachers and students, but the former rely more on performance and less on effort as compared to what their students evaluate as just.

Next, I compare teachers' response by their subject matter specialty, asking whether language, math and science teachers differ in their pattern of combined grading considerations, that is, in the relative weights they give to different considerations when grading their students⁶(Table 2).

The analyses of variance between the three subject matter specialties showed significant differences in each of the considerations, though the differences in the weight given to "need" are relatively small and not very meaningful.

The more significant differences (also statistically significant) in regard to weights given to performance and effort were surprising. Unlike the "intuitive" hypothesis about a possible distinction between language teachers on the one hand and math and science teachers, on the other hand, the cleavage in pattern of grading is math versus science and language teachers. The former, usually more conservative in pedagogical attitude and practices (Dar 1985; Stodolsky 1993; Siskin 1994; Pollio 1996; Resh and Kramarski 2007), give higher weight to performance and less weight to effort and learning behavior, compared to both language and science teachers who are emphasizing to a greater extent the input component (effort) in evaluating their students' academic achievement.

Next teachers were asked whether grading considerations should be applied universally to all students or be differentiated when grading the "strong" and "weak" ones.

⁵ The students' questionnaire included also a section about their views regarding the just allocation of grades and their sense of justice about their own grades. Here I only present the summary of students' average response to an identical question.

⁶ I also compared teachers by gender and though few tendencies appear: male teachers tend to attribute a somewhat higher weight to talent and female teachers emphasized a bit more the effort, these differences were relatively small and not significant statistically.

Table 2 Grades' allocation considerations by teaching specialty (ANOVA)

	Subject matter specialty	<i>N</i>	Mean	SD	F	l vs. m	l vs. s	m vs. s
Performance	Lang.	123	63.0	21.1	7.10**	+		+
	Math	118	71.9	17.0				
	Science	124	65.8	17.8				
Effort	Lang.	123	29.0	19.0	5.84**	+		+
	Math	118	22.0	16.0				
	Science	124	28.4	17.4				
Need	Lang.	123	8.03	8.53	3.98*		+	
	Math	118	6.10	5.33				
	Science	124	5.84	5.56				

* $p < .05$; ** $p < .01$; + significant difference between two groups (l, language; m, math; s, science)

Table 3 Differential grade allocation considerations for “strong” and “weak” students ($N = 191$; 51.3%)

	“Strong” students	“Weak” students
Performance	69.33 (17.20)	52.46 (16.05)
Effort	25.14 (14.08)	35.86 (15.47)
Need	5.53 (6.47)	11.68 (8.53)

Teachers almost were split in their opinion about differential grading of “strong”–“weak” students: 51.3% (191) said that they see fit to use somewhat different considerations when grading students of each category and the rest insist on standard grading for all. The pattern of considerations in grade allocation for these two groups is presented in Table 3.

The results are not unexpected, but still interesting. The basic pattern is maintained, i.e., using a combination of considerations, where performance is the dominant one. However, quite dramatic differences appear in the weights given to the different considerations in grade allocation for the two groups of students: much less emphasis on performance, and considerably more on effort and need in grading ‘weak’ students. Differences in the average weight to each of the considerations are so bold, that there was no need for any test of significance between the weights.

Finally, I repeat the analysis of variance by teaching specialty in the pattern of grade allocation for “strong” and “weak” students (see Table 4). Findings strengthen the former distinction between science and math teachers. They suggest that even among those who advocate differential considerations in grading, science teachers stand out as more “egalitarian” in grading. This difference appears only in regard to the “weak” students while there is no difference by disciplinary specialty as far as “strong” students’ grading is concerned. While in grading “weak” students all teachers give greater weight to effort and need, science teachers tend to do it to a greater extent than their math and language teaching peers.

6 Conclusion and discussion

What can we make of these findings?

Table 4 Differential grade allocation considerations for “strong” and “weak” students, by teaching specialty (ANOVA)

	F	l vs. m	l vs. s	m vs. s
<i>“Strong”</i>				
Performance	1.10 (2,182)			
Effort	.64 (2,182)			
Need	.55 (2,182)			
<i>“Weak”</i>				
Performance	.69 (2,178)			
Effort	4.27* (2,178)		+	+
Need	4.78** (2,178)		+	+

* $p < .05$; ** $p < .01$; + significant difference between two groups (l, language; m, math; s, science)

First, it is obvious that the meritocratic ethos is very much alive, and highly institutionalized: the strong belief that schools operate on the basis of the equity principle is reflected in the pattern of grade allocation, which in principle seems to be accepted also by students. All the differences that did appear, do not subvert the basic order of considerations in grade allocation. Such a shared belief by all parties is probably a strong mechanism that contributes to the maintenance of the school system’s legitimacy. The institutionalized pattern of evaluation is a component in the hidden curriculum that transmits meritocracy and universalism as a central societal norm.

Among the equitarian allocating rules, the student’s “proved” performance (success in tests) is by far the major consideration, and more so for the allocators—the teachers. Consideration of input, learning efforts, is much less emphasized. The heavy reliance on test performance may result from the contention that it reflects an “objective”, “unbiased” and “accurate” measure of the students’ learning performance. Especially in the Israeli system with its big classes (35–40 students in a class), this may be also the most feasible and easy way to grade students.

It is important, however, to note the differences between teachers and students in this respect: teachers rely more on performance, while students tend to emphasize more than teachers, their investment of effort. This disparity may become one source of sense of unfairness and deprivation among students in schools.

Whether differential grading practice to “weak” and “strong” students, is justified, is another facet in the process of evaluation that touches upon an immanent tension embedded in teachers’ roles. On the one hand, the universalistic orientation is a building block of the schooling process: all students (of a cohort) are equal, are getting equal treatment, compete for a “prize”, and are rewarded differentially in proportion to what they achieve (the equity principle reflecting the meritocratic ethos). On the other hand, “the child in the center” is a message that calls for a more particularistic treatment, catering for every child’s needs, so as to motivate him or her in the most effective manner.⁷

Indeed, this tension is revealed in the split among teachers in regard to whether or not they believe it is just to differentiate grading considerations to “weak” and

⁷ On the systemic level this contradiction is revealed in discussions about just school resource allocation: equal or based on needs (affirmative action).

“strong” students. Comparing grading considerations among those teachers that legitimize differential treatment, it appears (as could be expected) that teachers will increase the weight given to the more particularistic considerations—effort and need—when grading “weak” students. These considerations increase the chance for a better grade to the “weak” student, thus may also decrease gaps in grades. However, if there is no consensus among teachers about this issue, and if students are not brought into accepting it, this may become another source of sense of injustice about grades among students.

Last, a somewhat surprising finding appears in the comparison of teachers' grading considerations by subject-matter expertise. Unlike the conventional dichotomy of scientific versus humanity subjects, the findings suggest that science teachers differ significantly from math (and language) teachers: while the later emphasize more the output (performance) consideration, the former tend to allocate a higher weight to student's investment (effort) in the grading process. When following a differential grading procedure, the tendency to apply a higher weight to effort and need in grading weak students, is accentuated among science teachers.

A plausible interpretation of these differences lies in the contextual conditions that may shape instructional practices of science teachers. Science teaching in Israel has gone through considerable transformation in recent decades: syllabi were renewed to include more “relevant” and up-to-date topics, and there is a tendency to define and teach the subject as interdisciplinary (integrating topics from biology, chemistry and physics, as well as introducing the new interdisciplinary subject of environmental studies). These changes are reflected in official guidelines, advocating practices that combine classroom teaching, laboratory work and out-of-class learning, all of which may create the milieu for more particularistic and equalizing grading practices, as part of a more general tendency for “open”, “progressive” pedagogical practices.

If this interpretation holds, it has important educational implications, which might also guide policymakers. It may suggest that a pre-condition for adjustment or change in teachers' pedagogical practices is not necessarily a “change of hearts” (teachers' views, beliefs and attitudes), but rather the creation of systemic conditions that encourage certain behaviors, which may also motivate attitudinal changes.

Acknowledgements This research is part of a larger investigation that was supported by a grant from the chief scientist of the Israeli Ministry of Education. An earlier version of this paper was presented in the International conference of ISJR in Berlin, Aug. 2006. I am greatly indebted to Dr. Bracha Kramarski from the School of Education at Bar-Illan University, whose cooperation was essential in making this investigation possible.

References

- Bidwell, C. E. (1965). The school as a formal organization. In J. G. March (Ed.), *Handbook of organizations* (pp. 972–1022). Rand McNally.
- Brantlinger, E. A. (1993). *The politics of social class in secondary school*. New York: Teachers College Press.
- Bruner, J. S. (1960). *The process of education*. Cambridge: Harvard University Press.
- Butler, R. (1987). Task-involving and ego-involving properties of evaluation: Effect of different feedback conditions on motivational perceptions, interest, and performance. *Journal of Educational Psychology*, 79, 474–482. doi:10.1037/0022-0663.79.4.474.

- Butler, R. (1988). Enhancing and undermining intrinsic motivation: The effect of task-involving and ego-involving evaluation of interest and performance. *The British Journal of Educational Psychology*, 58, 1–14.
- Connell, R. W. (1993). *Schools and social justice*. Philadelphia: Temple University Press.
- Dar, Y. (1985). Teachers' attitudes toward ability grouping: Educational considerations and social and organizational influences. *Interchange*, 16, 17–38. doi:10.1007/BF01807206.
- Dar, Y., & Resh, N. (2001). Exploring the multifaceted structure of sense of deprivation. *European Journal of Social Psychology*, 31, 63–81. doi:10.1002/ejsp.32.
- Dauber, S. L., Alexander, K. L., & Entwisle, D. R. (1996). Tracking and transition through middle grades: Channeling educational trajectories. *Sociology of Education*, 69, 290–307. doi:10.2307/2112716.
- Deutsch, M. (1975). Equity, equality, and need: What determines which value will be used as a basis of distributive justice. *The Journal of Social Issues*, 31, 137–149.
- Deutsch, M. (1979). Education and distributive justice. Some reflections on grading systems. *The American Psychologist*, 34, 301–401. doi:10.1037/0003-066X.34.5.391.
- Dreeben, R. (1967). The contribution of schooling to the learning of norms. *Harvard Educational Review*, 37, 211–237.
- Dushnik, L., & Sabar Ben-Yehoshua, N. (2000). Intentions vs. abilities: The ethical dilemmas facing Israeli teachers in the 90s. *Megamot*, 40, 42–465 (Hebrew).
- Ensminger, M. E., & Slusarcick, A. L. (1992). Path to high school graduation or dropout: A longitudinal study of first grade cohort. *Sociology of Education*, 65, 95–113. doi:10.2307/2112677.
- Entwisle, D. R., & Alexander, K. L. (1993). Entry into school: The beginning school transition and educational stratification in the US. *Annual Review of Sociology*, 401–423. doi:10.1146/annurev.so.19.080193.002153.
- Entwisle, D. R., Alexander, K. L., & Olson, D. E. (2007). Early schooling: The handicap of being poor and male. *Sociology of Education*, 80, 114–138.
- Entwisle, D. R., & Hayduk, L. A. (1982). *Early schooling: Cognitive and affective outcomes*. Baltimore, MD: John Hopkins University Press.
- Farkas, G., Grobe, R. P., Sheehan, D., & Shuan, Y. (1990). Cultural resources and school success: Gender, ethnicity and poverty groups within an urban school district. *American Sociological Review*, 55, 127–142. doi:10.2307/2095708.
- Grossman, P. L., & Stodolsky, S. S. (1995). Content as content: The role of school subjects in secondary school teaching. *Educational Researcher*, 24(8), 5–11.
- Hallinan, M., & Kubitschek, W. (1990). The formation of intransitive friendship. *Social Forces*, 69, 505–519. doi:10.2307/2579671.
- Jasso, G., & Resh, N. (2002). Exploring the sense of justice about grades. *European Sociological Review*, 18, 333–351. doi:10.1093/esr/18.3.333.
- Jencks, C. (1988). Whom must we treat equally for educational opportunity to be equal? *Ethics*, 98, 518–533. doi:10.1086/292969.
- Lortie, D. (2002/1975). *Schoolteacher: A sociological study*. Chicago: University of Chicago Press.
- McLaughlin, M. W., Talbert, J. E., & Bascia, N. (Eds.) (1990). *The contexts of teaching in secondary schools: Teachers' realities*. New York: Teachers College Press.
- Miller, S. (1998). Shortcut: High school grades as a signal of human capital. *Educational Evaluation and Policy Analysis*, 20, 299–311.
- Nissan, M. (1982). Motivational aspects of evaluation in schools. In A. Lewy (Ed.), *Evaluation roles* (pp. 131–148). London: Gordon & Breach.
- Nissan, M. (1985). Justice in the classroom: Teachers' and students' perceptions of principles that guide grading distribution. In Z. Lam (Ed.), *School and education* (pp. 141–155). Jerusalem: Magnes (Hebrew).
- Pollio, H. R. (1996). The two cultures of pedagogy: Teaching and learning in the natural sciences and humanities. *Teaching and Learning Issues*, 75, 3–33.
- Resh, N. (1998). Track placement: How the 'Sorting Machine' works in Israel. *American Journal of Education*, 106, 416–438. doi:10.1086/444190.
- Resh, N., & Kramarski, B. (2007). Teachers' beliefs and pedagogical practices. *Educational Theory and Practice*, 29(2), 27–48.
- Resh, N., & Sabbagh, C. (2009). Justice in teaching. In L. Saha & A. Gary Dworkin (Eds.), *International handbook of research on teachers and teaching*. Dordrecht: Springer.

- Roscingo, V. J., & Ainsworth-Darnell, A. W. (1999). Race, cultural capital, and educational resources: Persistent inequalities and achievement returns. *Sociology of Education*, 72, 158–178. doi:[10.2307/2673227](https://doi.org/10.2307/2673227).
- Sabbagh, C. (2001). *The Multi-dimensional structure of distributive justice Judgments*. Jerusalem: NCJW Research Institute of Innovation in Education, The Hebrew University (Hebrew).
- Sabbagh, C., Dar, Y., & Resh, N. (1994). The structure of social justice judgments: A facet approach. *Social Psychology Quarterly*, 57, 244–261. doi:[10.2307/2786879](https://doi.org/10.2307/2786879).
- Sabbagh, C., Resh, N., Mor, M., & Vanhuysse, P. (2006). Spheres of justice within schools: Reflections and evidence on the distribution of educational goods. *Social Psychology of Education*, 9, 97–118. doi:[10.1007/s11218-005-3319-9](https://doi.org/10.1007/s11218-005-3319-9).
- Schiller, K. S. (1999). Effects of feeder patterns on students' transition to high school. *Sociology of Education*, 72, 216–233. doi:[10.2307/2673154](https://doi.org/10.2307/2673154).
- Schwarzwald, J., & Fridle-Cohen, S. (1984). Social acceptance in the heterogeneous classroom: Its relationship to ethnic origin and academic status. *Megamot*, 28, 404–424 (Hebrew).
- Seginar, R. (1983). Parents' educational expectations and children's academic achievement: A literature review. *Merrill-Palmer Quarterly*, 29, 1–23.
- Siskin, L. S. (1994). *Realms of knowledge: Academic departments in secondary school*. Washington, DC: Falmer Press.
- Stodolsky, S. S. (1993). A framework for subject matter comparisons in high schools. *Teaching and Teacher Education*, 41, 33–346.
- Stodolsky, S. S., & Grossman, P. (2000). Changing students, changing teaching. *Teachers College Record*, 102, 125–172. doi:[10.1111/0161-4681.00050](https://doi.org/10.1111/0161-4681.00050).
- Tyack, D., & Tobin, W. (1994). The “grammar” of schooling: Why it has it been so hard to change? *American Educational Research Journal*, 31, 453–479.
- Vanfossen, B., Jones, J., & Spade, J. (1987). Curriculum tracking and status maintenance. *Sociology of Education*, 43, 355–376.
- Walzer, M. (1983). *Spheres of justice*. New York: Basic Books.

Author Biography

Nura Resh is a sociologist of education, a senior lecturer in the School of Education at the Hebrew University of Jerusalem. Her research focuses on the stratifying effect of schools, on schools and classes compositional effects, and on distributive justice in schools (especially at the micro level).