



## Educational goal preferences among novice and veteran teachers of sciences and humanities

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### Abstract

Does teaching experience differentially shape the thinking of teachers of different academic disciplines regarding schooling issues incidentally related to subject matter instruction? This question was addressed by examining the broad schooling goals established for students by novice and veteran teachers of “humanistic” and “scientific” subjects. Participants were 44 Israeli female teachers of grades 7–9. Frequency and intensity of goal preferences were assessed in a semi-structured interview. Results demonstrated that: (1) novices and veterans expressed different goal preferences, as did humanities versus science teachers; (2) experienced humanities teachers preferred academic goals less than other teachers; and (3) the overall order of goal preference was academic > social > personal. The significance of the interaction between teacher experience and discipline taught is discussed. © 1999 Elsevier Science Ltd. All rights reserved.

*Keywords:* Teacher goals; Teacher experience; Subject matter

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Teaching experience clearly shapes teachers' thinking and behavior regarding the instruction of an academic subject. Research has unequivocally documented meaningful differences in the pedagogical thought and conduct of novice and veteran teachers of a given topic (e.g., Berliner, 1994; Pintrich, 1990). However, research has not demonstrated whether teaching experience systematically shapes the professional thinking and behavior of teachers of different academic subjects regarding

schooling issues that are not directly related to subject matter instruction. Much of the earlier research that investigated teacher experience focused on instruction within a particular discipline or compared novices and veterans while ignoring the subjects they taught. Only minimal attention has been directed to the possibility that teachers approach schooling issues that are not directly related to subject matter instruction, such as the goals of schooling, as a function of their experience as teachers of a particular academic discipline.

Despite the negligible interest displayed by researchers, this topic may have important ramifications, especially in this era of interest in teachers' professional development when many educational

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reforms are aimed at the improved functioning of the entire school staff and do not relate directly to subject matter instruction (Louis, Marks & Kruse, 1997). For example, school officials knowledgeable about the differential effects of instructional experience on the pedagogical thinking and behavior of teachers of diverse subjects should be better able to determine the particular teacher groups that are more or less appropriate targets for school change efforts. Also, they should be more skillful at customizing professional development programs for specific groups of teachers. Furthermore, they should be more capable of facilitating constructive communication among various clusters of teachers participating in different professional development programs while avoiding balkanization (Hargreaves, 1994).

The present study explored one important effect of instructional experience in varying academic disciplines on teachers' treatment of schooling issues not directly related to subject matter instruction. We examined the broad purposes or goals of education established for students by junior high school teachers who varied on amount of instructional experience and who taught different academic subjects. Our assumption was that teachers' preferred goals for students have meaningful implications for teachers and students alike (see Tatto, 1998). A host of instructional activities such as curricular choices, time exploitation, and preferred teaching methods seem to be related to the goals teachers endorse for their students (Pintrich & Schunk, 1995). Teachers' adoption of a particular professional role might also be related to the goals they foster among their students (McLaughlin, 1993). Furthermore, the goals teachers champion for their students affect the spirit of teaching by focusing energy and arousing passion around certain issues while maintaining a more detached 'objective' attitude toward others. Based on research outlined below, we assumed that teachers of different academic subjects are characterized by diverse courses of professional development so that over time they establish broad educational goals for their students that are systematically related to the discipline they teach.

Teacher experience has received relatively limited research attention, but a similar construct,

teacher expertise, has been investigated more extensively. Berliner (1994) summarized research demonstrating the superiority of expert over novice teachers regarding a host of educational phenomena. His analysis indicates that experts as compared to novices: perceive events and process their meanings differently; have different knowledge structures available to solve problems; and are more flexible, effortless, evaluative and confident in their instructional behavior. These characteristics enable expert teachers to acquire deeper understanding of classroom events and to develop more appropriate instructional strategies (also see Sternberg & Horvath, 1995). Some authors (e.g., Desforges, 1995; Welker, 1991) have expressed reservations regarding use of the expertise metaphor in reference to teachers. Nevertheless, the concept has facilitated important pedagogical insights and the prospect of designing improved teacher development programs.

Many authors have noted that expert and experienced teachers are not identical, but that experience is a necessary but partial component of expertise (e.g., Lampert & Clark, 1990; Sternberg & Horvath, 1995). Experience provides teachers the *opportunity* to develop expertise. Research has shown that veterans as compared to novice teachers have greater procedural knowledge about instruction (Pintrich, 1990) and superior understanding of subject matter that facilitates effective instruction (Krinsky & Zilberstein, 1991); they relate to classroom events in terms of instructional principles and improved practice rather than to isolated occurrences (Peterson & Comeaux, 1987); and they are able to extract more meaningful information from classroom events (Berliner, 1994). Indeed, conceptualizations of teaching as craft are linked to the idea of pedagogical wisdom that results from thinking about instructional practice over an extended period of time (e.g., Grimmett & MacKinnon, 1992; Leinhardt, 1990). These attributes of experience have been sufficient for some researchers to treat teacher experience as the primary criterion of expertise (e.g., Berliner, 1987; Strauss & Shilony, 1994).

Although some scholars view experience as having relatively similar effects on all teachers, others regard it from a domain specific perspective (e.g., Berliner, 1994; Leinhardt, 1988). They contend that

the lessons teachers learn from their pedagogical experiences are largely embedded in the academic disciplines they teach. More than 25 years ago Bernstein (1972) argued that the variance in teachers' orientation to knowledge and to instruction is related to the discipline being taught. More recently, Yaakobi & Sharan (1985) found that the epistemological beliefs of experienced Israeli secondary school teachers varied according to the type of subject they taught. Humanities teachers expressed different opinions from those of science teachers regarding issues such as the relationship between knowledge and personal experience, the process of acquiring knowledge, and the interrelationships among different bodies of knowledge. Opinions of foreign language teachers, primarily those of English as a Second Language (ESL), differed even more radically from those of humanities teachers.

The differences in pedagogical thinking documented by Yaakobi & Sharan (1985) between Israeli secondary school teachers of the humanities and those teaching the sciences seem to be systematic and meaningful. One probable source of this variation relates to long-standing curricular practices in Israeli secular academic high schools<sup>1</sup> (see Ayalon & Yogev, 1996). Analysis of the curriculum in these schools reveals important differences between humanities and social science curricula (hereafter "humanities") on the one hand and mathematics and the sciences (hereafter "sciences") on the other. As in numerous other countries the sciences are considered more prestigious (see e.g., Kamens & Benavot, 1992; Kliebard, 1992). Entry to advanced science and math courses is selective and the schoolwork is very demanding. Students who sit for advanced math and science matriculation exams are viewed as the academic elite. Humanities and social science programs are less prestigious. Entry is not very selective and school-

work is considered less demanding. Indeed, admission to a humanities program often follows denied entry to a more prestigious science curriculum. Moreover, ethnic minority, female, and scholastically weak students are more frequently enrolled in humanities than in science programs. Overall, status differences between humanities and science curricula in Israel are reminiscent of Little's (1993) description of comparable differences between vocational and academic teachers in American high schools.

It is noteworthy that the Israeli educational system maintains a common national curriculum at the secondary level and there are national matriculation exams beginning in tenth grade. Thus, high school teachers do not have significant opportunities to depart from or to experiment with the prescribed curriculum. This renders rather uniform curricular exposure for all students within a particular academic program. Accordingly, we anticipated that curricular factors distinguishing science from humanities programs, including student characteristics, program prestige and academic orientation, may also shape teachers' beliefs about the preferred schooling goals for their students.

Differences in the pedagogical thinking and practices of humanities and science teachers in secondary school can also be partially attributed to their pre-service professional education experiences (Lacey, 1977). For example, some systematic sorting of high school teachers occurs at the career preparation stage when requirements vary for acceptance to different university academic departments and candidates have already developed interests related to their field of study. Also, pre-service teachers are exposed to distinctive ways of thinking during their college years that are shaped by their major field of study. For example, the variation in epistemological beliefs that Yaakobi & Sharan (1985) found between humanities and science teachers was consistent with the unique ways of knowing that characterize the different academic disciplines. These pre-service features may have an impact on the kind of goals that teachers of different disciplines establish for their students.

Another source of differences between humanities and science teachers relates to organizational

<sup>1</sup> The discussion here is relevant to the public secular system in Israel which comprises about 80% of secondary school students in the Jewish sector but may not be entirely accurate for students in the public religious system (see Ayalon & Yogev, 1996) or students in the Arab sector. All teachers participating in the present study were from the public secular system.

aspects of pedagogical practice. In a study of 16 American high schools, Grossman & Stodolsky (1994, 1995) and Stodolsky & Grossman (1995) found that subject matter combined with departmental norms and policies gives rise to distinctive teacher sub-cultures characterized by pedagogical beliefs and practices that vary systematically with the discipline being taught. Despite the important pedagogical and organizational differences between American and Israeli secondary schools, it is likely that the main finding of Grossman and Stodolsky is also valid in Israel at least regarding humanities versus science teachers. Although no systematic research has been conducted in Israel on this topic, there is abundant anecdotal evidence that attests to differences in pedagogical conditions between these two sets of teachers. For example, math, science, and ESL faculty are more likely full-time teachers of the academic discipline in which they specialize whereas humanities and social science teachers frequently teach more than one school subject. Also, science teachers more often teach academically homogeneous groupings of students and only rarely do they encounter students with significant learning problems who have been integrated into the regular classroom. Furthermore, there is more collegial coordination and standardization among teachers of mathematics, ESL, and perhaps the sciences regarding issues such as instructional content, coverage of material, and assessment procedures than there is among social science and humanities teachers (Menis, 1998 personal communication).

Some evidence of differences between humanities and science teachers can even be found among elementary school teachers whose professional identity is less related to a particular discipline and is not continually shaped by the norms governing an academic department. For example, Shilony (see Strauss & Shilony, 1994) found that experienced as compared to novice science teachers in Israeli elementary schools (grades 1–6) were more certain of the veracity of their beliefs about students' knowledge acquisition. In contrast, both novice and veteran humanities teachers expressed similar levels of certainty.

Differences documented here contrasting secondary school teachers of science, mathematics and

ESL with humanities and social science teachers should also be reflected in the schooling goals they set for their students. There are some hints to this effect in the research of McLaughlin (e.g., 1993) on American high schools. She reported that teachers' goals for students were contextually bound, shaped primarily by perceptions of their students. McLaughlin discussed department level factors affecting teachers' goal profiles including collegial relations and organizational issues, but did not refer to subject matter instruction. In general, we anticipated that the curricular, organizational and professional development features discussed earlier should foster math, science and ESL teachers' adoption of a relatively narrow academic goal orientation for their students while humanities and social science teachers should prefer a greater variety of schooling goals for their students.

By 'schooling goals' we refer to the broad aims or purposes of education that teachers hold for their students, or as Lortie (1975, p. 109) noted "what teachers seek to attain in their classroom work". Previous research results present a mixed picture of the schooling goals preferred by teachers. In much of the American research elementary school teachers were interviewed to determine their goal preferences. These studies demonstrated that teachers hold a variety of goals for students in the academic, cognitive, social, and personal domains (e.g., Lortie, 1975; Prawat, 1985). No one schooling goal stood out in the minds of the respondents as most widely endorsed or as most fundamental. Some research also suggests that particular schooling situations may encourage teachers to adopt unique goal preferences for their students (Ennis, Chen & Ross, 1992).

In contrast to results of most American research, studies conducted in Israel lead to different conclusions. In one investigation of junior high schools using loosely structured interviews and observations, teachers revealed that they placed overwhelming emphasis on academic and cognitive goals for students (Rich, Amir & Ben Ari, 1981). This was the case despite the fact that the student body of Israeli junior high schools is especially heterogeneous and social aspects of schooling are supposed to be prominent. A similar study of elementary school teachers examined slightly different

schooling goals and also found preference for the academic and cognitive domains (Ben Ari & Shafir, 1988). Finally, Rich (1993) interviewed teachers of either low-achieving, high-achieving, or academically heterogeneous classes in nine elementary and 10 junior high schools. He found that the academic goal for students dominated among teachers in all settings. Only elementary school teachers of heterogeneous classes demonstrated a tendency to relate to academic, social, and personal goals in a relatively balanced manner.

Accordingly, we anticipated that all groups of teachers in this study would express a basic preference for academic goals over social and personal ones. However, extrapolation from the literature on expert and experienced teachers led us to believe that experienced teachers as compared to novices would prefer a greater variety of goals for their students and would be more balanced regarding their estimation of the importance of the different goals. This assumption was based on research findings demonstrating that experienced teachers are more flexible than novices, have greater pedagogical and procedural knowledge, and have better control over classroom events (e.g., Berliner, 1994; Pintrich, 1990). Experienced teachers are also more likely to be tenured or in secure job positions. Thus, they should sense less pressure to “cover” all of the prescribed academic curriculum and should feel freer to strive for a variety of schooling goals for their students. Furthermore, experienced teachers have been exposed to a range of student concerns and aspirations during their career, possibly sensitizing them to the diverse academic and personal needs of different children.

Teachers of humanistic subjects as compared to teachers of the sciences and foreign languages should also express greater preference for social and personal goals for their students. Research indicates that the former are more progressive in their educational orientation and legitimize a broader range of schooling practices and goals. They also more readily recognize that knowledge acquisition is a process that is contingent upon the student’s personal background and educational purposes, while the latter view knowledge as more discrete, objective, and as an entity to be acquired or mastered (Yaakobi & Sharan, 1986). In addition,

humanities as compared to science teachers have greater contact with students who are less oriented to academic excellence (Ayalon & Yogev, 1996). As a result, we anticipated that teachers of humanistic subjects would express a greater tendency to prefer a variety of schooling goals. However, it is possible that this tendency would be stifled among novices due to their felt pressure to maintain order in the class and to make progress on the academic curriculum, the primary arena where their professional competence is judged. Thus, it was expected that the goal preferences of novice teachers of the humanities would be similar to those of their colleagues teaching the sciences, and that only experienced teachers of the humanities would report relatively balanced goal preferences for their students.

## 1. Method

### 1.1. Subjects

Participants in the study were 44 female teachers working in secular public schools of the Jewish sector located in three adjacent urban communities in central Israel. Forty teachers were from four junior high schools (grades 7–9) while four additional teachers of grades 7–8 participated, each from a different elementary school. All schools had a student body composition that was heterogeneous as to socio-economic and ethnic background. Schools in these communities were chosen for the study due to their heterogeneity and ease of access for researchers. We sought heterogeneous schools to encourage expression of goal orientations among teachers who were exposed to a broad array of student characteristics and needs. There were a total of 22 veteran teachers (minimum seven years of experience,  $\bar{x}$  = 15.4 years) and 22 novices (maximum two years of experience,  $\bar{x}$  = 1.3 years) who were interviewed. Eleven inexperienced and 11 veteran participating teachers taught the “sciences” (biology, chemistry, mathematics, physics, and English as a second language) while 11 novice and 11 experienced teachers taught “humanities” subjects (Bible, geography, history, and literature). The science teachers averaged nine years

of experience while the humanities teachers had taught for an average of eight years. Teaching experience was operationalized here as years of service in class instruction. Clearly this is an oversimplification that masks important elements reflecting the quality of that experience. However, earlier research (e.g., Berliner, 1994) has demonstrated the value of this variable which serves as a proxy, much as does years of education relative to quality of education.

Categorization of subject matter fields in this study was based on the findings of Yaakobi & Sharan (1985) in Israeli junior high schools and those of Barnes & Shemilt (1974) for similarly aged students in England, while diverging somewhat from the results of Stodolsky & Grossman (1995) in American high schools. Despite some efforts abroad to approach mathematics as part of the humanities, the Israeli high school mathematics curriculum is closely linked to the sciences and is sharply distinguished from the humanities (see Ayalon & Yogev, 1996). Mathematics and sciences are often treated as complementary parts of one curricular package that includes little coursework in the humanities or social sciences. Foreign language teachers are also included in the “sciences” category due to their epistemological beliefs as reflected in the Yaakobi and Sharan study. Also, the instruction of foreign language, primarily English as a Second Language, focuses on language mechanics and reading comprehension virtually ignoring humanistic topics such as literature and cultural knowledge. Consequently, two clusters of teachers were formed, one representing teachers of the sciences including mathematics and foreign languages, and the other included teachers of social sciences and humanities subjects. Researchers in Israel (e.g., Kfir, Ariav, Feigin & Liebman, 1997) and elsewhere (e.g., Ross, Cousins & Gadalla, 1996) have used a similar dichotomous categorization of subject matter teachers in secondary schools.

It is noteworthy that perceptions of some academic subjects (e.g., geography, biology) as more or less “scientific” or “humanistic” appear to vary in different locations according to a variety of factors including the cultural meanings attributed to the particular discipline by educators and by the general public, curricular relations with other aca-

demically subjects, assessment practices, prestige issues, and others.

*Instrumentation.* A semi-structured interview strategy was employed to determine teachers’ goal preferences. The interview comprised pedagogical topics that each teacher was requested to discuss with the interviewer. Topics were presented as broad questions that served as stimuli for discussion. The interview schedule employed was based on questions appearing in previous studies of teachers’ goal orientations for students (Lortie, 1975; Prawat, 1985; Rich, 1993). A few other questions (e.g., no. 2 following) that were especially relevant to the participating teachers were also presented. In addition, the interview began with several questions to elicit information regarding years of teaching experience, formal education and subjects taught. Prior to conducting the interviews analyzed in this study, eight other interviews were held to determine: clarity of the questions; whether responses elicited related to the main topic of the research; and a measure of reliability for categorizing responses. These interviews also provided the interviewer with practical experience using the particular interview schedule developed for this study. Some modifications were made as a result of these early interviews. Following are the major questions raised in the main body of the interview:

1. Among the different things you do as a teacher, which ones, in your opinion, are the most important? Why are these especially important to you?
2. Recently the Education Ministry has encouraged whole-school staff development programs. What topics do you think should be dealt with in such a program in your school? How will they affect practice in your class?
3. Your principal informed you that you will receive two additional hours weekly in your class. You have the right to decide what to do with these hours, according to your own priorities in your class. How do you think it is best to use them?
4. What is the most important thing you want to accomplish in your class with the students you teach? How would you go about doing it? Describe how it would be expressed on a day-to-day basis in your classroom.

5. Topics studied according to the formal curriculum are adapted primarily to different age levels, but less to other student characteristics. What are the issues that you are concerned with when you adapt a topic to the students in your class? Give some examples of how these adaptations are expressed practically in your classroom.
6. We know that each class is a world unto its own. Try to describe the special characteristics of one of the classes you teach. What makes it special?
7. Do the special characteristics you mentioned affect your deliberations regarding teaching methods? Give some examples of this from your classroom work.
8. How do you characterize the students that you teach – relatively homogeneous or heterogeneous? Could you describe the children in your class?
9. Let us assume a social problem arises in a class that you teach. Is it your job to deal with it? Describe some recent event in your class involving a social problem among the children and your choice of treatment.

For each of the nine question areas, additional follow-up questions and/or comments were raised by the interviewer, either to clarify points or to return to the relevant issues. In all cases, the interviewer's objective was to help the respondent express her beliefs and perceptions regarding the educational goals she establishes for her students.

Analysis of teachers' responses was instructed by methodological suggestions of Guba & Lincoln (1981), Spradley (1979) and Sabar (1990) and by the work of previous researchers on this topic (Lortie, 1975; Prawat, 1985; Rich, 1993). Each teacher's responses were analyzed after the entire protocol was read and utterances were divided into units having independent content. In the pre-test stage three independent judges categorized teacher responses into units and reached agreement in over 80% of the cases. Following additional discussions and clarifications among the judges, inter-judge agreement was 92.2%.

These units were then categorized as reflecting academic, social, personal or irrelevant goal preferences. More specific topics within each goal category evolved from the protocol analyses.

Academic goals included the following topics: knowledge mastery, facilitating thinking, encouraging motivation to learn, developing learning skills, and improving achievement. Social goals were expressed in statements related to: developing interpersonal relations, acquiring sensitivity to others, encouraging tolerance, adjusting to social norms, developing acceptance of human differences, and facilitating improved communication. Personal goals included: developing the student as a unique individual, enhancing student self-awareness, facilitating healthy self-concepts, and developing student self-confidence. Brief examples of teacher goal statements for each of these topics are presented in Appendix A. To be sure that the categorization of units to the different goal areas was valid, we extracted a large sample of teacher utterances from the protocols and presented them to 33 advanced education students. They were asked to classify them according to the three goal preference categories. This process yielded 91% agreement.

In contrast to almost all earlier research that investigated frequency of statements of goal preference only, we attended to the intensity of preference as well as to its frequency. Both frequency and intensity of preference were examined because each dimension seems to reflect goal preference in a somewhat different manner. Analysis of both dimensions may provide a richer and more reliable source of data from which to draw conclusions. If results indicate similar patterns of goal preference for both frequency and intensity, we can be considerably more certain of the validity of our conclusions.

Each response unit received an intensity of preference score as follows: "1" for negative or indifferent reactions, "2" for a general positive comment, "3" reflected a clearly positive preference that was accompanied by a relevant rationale after being elicited by the interviewer, and "4" was scored when the respondent made a clear and specific positive statement including an unsolicited rationale for the preference. Appendix B presents examples of teachers' responses scored for intensity of preference. Scores of frequency and intensity of preference were tabulated to allow for statistical analysis.

## 1.2. Procedure

After receiving permission to conduct the study from appropriate educational authorities, administrative personnel in each of the junior high schools were consulted to coordinate the study and to determine the potential pool of participating teachers. All teachers of relevant subjects in heterogeneous classes who were either novices or veterans according to the criteria we presented were included in the pool. In addition, we asked the school official to eliminate individuals who were considered “unsatisfactory” teachers or who taught special education classes. Three teachers were eliminated because they were deemed unsatisfactory by the school official. Teachers were directly solicited for participation by the researchers and they were almost unanimous in their willingness to cooperate. Interviews were scheduled with individuals at school during teachers’ “free” time during a break or after teaching hours. We sought a friendly, calm atmosphere during the interview to facilitate frank responses. The interviews were conducted in an amicable, informal manner. Interviews averaged 45 min in length. The four elementary school teachers were recruited in a similar manner.

## 2. Results

Data were subjected to MANOVA tests of significance with type of goal, teaching experience, and academic subject taught as independent variables ( $3 \times 2 \times 2$ ) while frequency and intensity of prefer-

ence served as dependent variables. The MANOVA tests of the entire model proved significant for frequency of preference, Wilks’ lambda = 0.34,  $F(2,39) = 36.70$ ,  $p < 0.001$ , and for intensity of preference, Wilks’ lambda = 0.50,  $F(2,39) = 18.76$ ,  $p < 0.001$ .

The significant values allowed further investigation with ANOVA tests. These also showed significant differences in goal preference among the entire sample, for frequency  $F(2,80) = 30.87$ ,  $p < 0.001$  and for intensity  $F(2,80) = 17.12$ ,  $p < 0.001$ . Post hoc contrasts demonstrated significant ( $p < 0.001$ ) differences between preferences for academic goals ( $\bar{X} = 7.79$ ) and preferences for social ( $\bar{X} = 5.13$ ) and personal ( $\bar{X} = 2.93$ ) goals. Similar significant differences were found for intensity of preference for academic goals ( $\bar{X} = 2.89$ ) versus intensity of preference for social ( $\bar{X} = 2.37$ ) and for personal ( $\bar{X} = 1.93$ ) goals. Thus, it is apparent from an examination of the interviews of the entire sample that these teachers expressed a definite preference for academic goals for their students over social and personal goals.

However, examination of Table 1 and Fig. 1 reveals that the veteran humanities teachers expressed unique goal preferences differing from novice teachers of humanities and from both novice and experienced science teachers. Preference for academic goals among experienced humanities teachers was more than a full standard deviation lower than among the other three teacher groups. The ANOVA tests for academic goals indicated that novices scored higher than did experienced teachers,  $F(1,40) = 4.12$ ,  $p < 0.05$ , science teachers

Table 1  
Means and standard deviations of frequency of goal preference among novice and veteran teachers of humanities and sciences

			Academic	Social	Personal
Novices		$\bar{X}$	8.27	4.54	2.45
	Humanities ( $N = 11$ )	(S.D.)	(3.13)	(4.00)	(1.57)
Veterans		$\bar{X}$	9.45	2.90	2.00
	Sciences ( $N = 11$ )	(S.D.)	(2.69)	(2.58)	(2.28)
Novices		$\bar{X}$	4.00	7.72	4.36
	Humanities ( $N = 11$ )	(S.D.)	(2.09)	(2.00)	(2.06)
Veterans		$\bar{X}$	9.45	5.36	2.90
	Sciences ( $N = 11$ )	(S.D.)	(5.22)	(3.82)	(2.30)

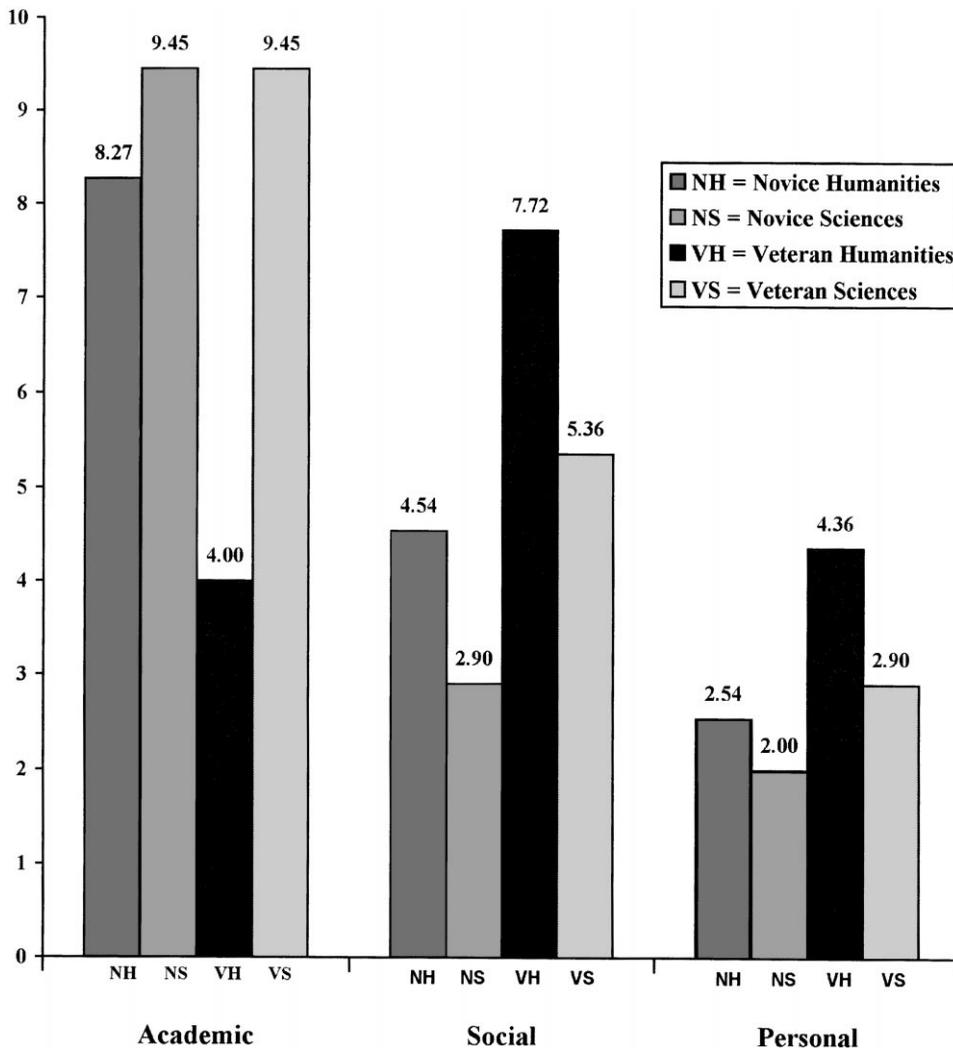


Fig. 1. Frequency of preference for three goal domains among novice and veteran humanities and science teachers.

preferred academic goals more than did humanities teachers,  $F(1,40) = 9.93$ ,  $p < 0.003$ , and there was a significant interaction,  $F(1,40) = 4.12$ ,  $p < 0.05$ . The interaction highlights the sharp contrast between preferences of experienced humanities teachers for academic goals with those of their colleagues.

Veteran as compared to novice teachers displayed greater preference for social goals,  $F(1,40) = 8.43$ ,  $p < 0.01$  and for personal goals,  $F(1,40) = 5.07$ ,  $p < 0.03$ . Similarly, humanities teachers showed

greater preference for social goals than did their colleagues in the sciences,  $F(1,40) = 4.25$ ,  $p < 0.05$ , although no significant differences were found for personal goals,  $F(1,40) = 2.33$ ,  $p < 0.14$ . In both cases the interaction effects were not significant (social:  $F = 0.14$ ; personal:  $F = 0.64$ ).

Examination of the intensity of preference scores appearing in Table 2 and Fig. 2 also indicated meaningful differences between the groups with veteran humanities teachers displaying unique characteristics. The ANOVA test of differences in

Table 2  
Means and standard deviations of intensity of goal preference among novice and veteran teachers of humanities and sciences

			Academic	Social	Personal
Novices	Humanities ( <i>N</i> = 11)	$\bar{X}$	25.82	10.73	5.45
		(S.D.)	(10.01)	(10.26)	(3.78)
	Sciences ( <i>N</i> = 11)	$\bar{X}$	28.55	7.55	4.73
		(S.D.)	(8.79)	(8.08)	(6.28)
Veterans	Humanities ( <i>N</i> = 11)	$\bar{X}$	10.73	22.36	11.09
		(S.D.)	(5.83)	(6.22)	(6.04)
	Sciences ( <i>N</i> = 11)	$\bar{X}$	24.64	14.55	7.22
		(S.D.)	(11.80)	(11.21)	(6.36)

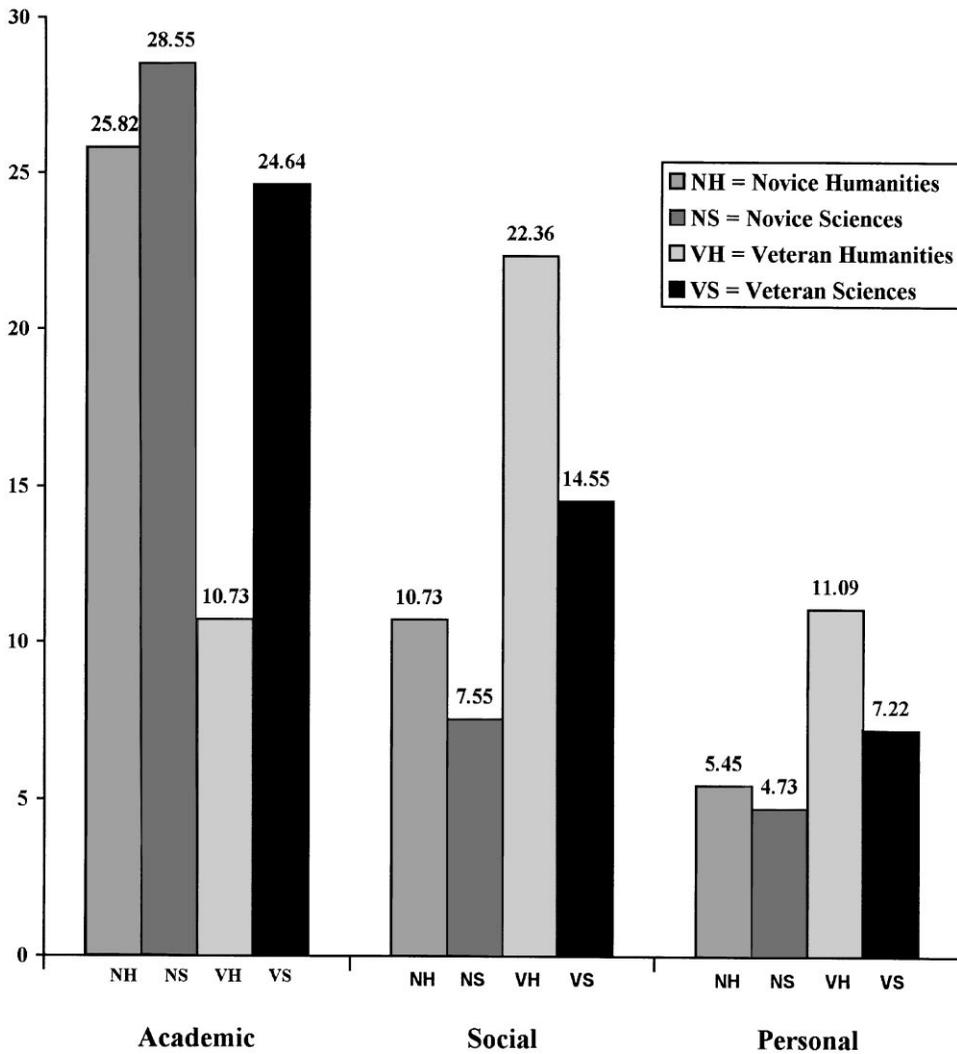


Fig. 2. Intensity of preference for three goal domains among novice and veteran humanities and science teachers.

intensity of preference for academic goals between novice and veteran teachers was significant,  $F(1,40) = 11.32$ ,  $p < 0.005$ , with higher scores for the former. Science teachers similarly expressed greater intensity of academic goal preference than did their humanities colleagues,  $F(1,40) = 8.68$ ,  $p < 0.01$ . The interaction term also proved significant,  $F(1,40) = 3.92$ ,  $p = 0.05$ , as a result of the unique low preference level among veteran teachers of the humanities.

Experienced teachers expressed greater intensity of preference for social goals than did novices,  $F(1,40) = 11.41$ ,  $p < 0.005$ . Similarly, more intense social goal preferences were found for humanities as compared to science teachers,  $F(1,40) = 3.98$ ,  $p = 0.05$ . The interaction was not significant,  $F(1,40) = 0.71$ , although the veteran humanities teachers stand out as the highest scoring group.

Veteran teachers also expressed greater intensity of goal preference in the personal domain than did novices,  $F(1,40) = 6.28$ ,  $p < 0.02$ . Humanities and science teachers did not differ for personal goals,  $F(1,40) = 1.41$ , nor was the interaction term significant,  $F(1,40) = 0.59$ . Again, it is noteworthy that veteran humanities teachers scored highest for intensity of preference for personal goals.

Thus, results of the statistical tests indicate that experienced humanities teachers have significantly different goal preferences in the academic domain than do other teacher groups. Differences in other areas, though apparently large, did not reach acceptable levels of significance. Interestingly, examination of the *pattern* of goal preferences among the teacher groups again highlights the experienced humanities teachers. Note that other teacher groups display the following order of frequency and intensity of preference: academic > social > personal. In contrast, among veteran humanities teachers the pattern for both dimensions is: social > personal = academic.

### 3. Discussion

The outstanding finding of this study was that experienced teachers of the humanities reported that they establish goals for their students that differ from those set by the other three teacher

groups. Experienced humanities teachers expressed significantly weaker preferences for academic goals than did their inexperienced colleagues in the humanities and in comparison with science teachers, both veterans and novices. Although the interaction effects for social and personal goals were not significant, veteran humanities teachers expressed the highest support for goals in both of these domains as well. The special position of experienced humanities teachers was reflected in both measurement dimensions, frequency and intensity of preference. We will return to examine one possible source for the unique goal orientation of the veteran humanities teachers, but first we will consider the overall differences between novices and veterans and between science teachers and humanities teachers.

One important finding of this study was that inexperienced and experienced teachers differed on all three areas of goal preferences for students. Overall, novices expressed stronger preference for academic goals than did veterans and they indicated weaker preference for social and personal goals. This outcome held for both frequency and intensity of preference. Thus, veterans' goal orientations were somewhat more balanced than those of novices. Several reasons for this finding regarding the divergent goal orientations between experienced and inexperienced teachers can be offered. Here we will consider briefly two possibly complementary explanations.

Novice teachers often begin their career under heavy pressure, real or imagined, to conform to the academic norms operating in their school. This includes a variety of elements such as keeping up with the desired level of academic standards, curriculum coverage, and student success rate on examinations. Additionally, many novices are in a very tenuous professional position, without tenure and often hired as a late replacement for a teacher who has left the school. Huberman (1993) suggests that a major theme of the early stage of teaching is "survival", which is characterized by the novice's preoccupation with self and feelings of inadequacy, by classroom events that are frequently interrupted and rarely work as planned, by a perceived lack of sufficient collegial support, and by other phenomena that foster confusion and

frustration. Under such professional and pedagogical conditions it is only reasonable that inexperienced teachers place disproportionate emphasis on fostering academic goals, regardless of the discipline they teach. This is the domain where they have received most training in their initial teacher education programs; this is the job that they do with greatest comfort and felt competence; this is the focal point of school expectations and demands; and academic progress is the issue which is most central to officials' decision to continue employing the beginning teacher. One literature novice in this study succinctly expressed the primacy of academic goals when she stated, "In practice the most important thing I have to do is to teach the discipline as well as I possibly can. Only after that, once I'm pretty sure that they're learning the material satisfactorily, other areas like values education and social and personal relations become relevant".

A second explanation focuses on the experienced teacher. Many veterans have developed classroom management skills and have gained significant confidence in their ability to guide and control class events and to accomplish the curricular goals. They have little fear of pandemonium breaking out if they decide to deal with non-academic issues in the classroom. Nor are they overly concerned about adequate curriculum coverage if the classroom situation demands a temporary change of focus from academics to social or personal issues troubling the students. In addition, several researchers (e.g., Huberman, 1993) have found that many experienced teachers reach career stages where they are interested in professional diversification and are especially concerned about having a consequential impact on students' lives. Thus, veterans' greater sense of professional confidence and their need for meaningful impact on their students enable many of them to be sufficiently open to consider the relevance of a variety of educational goals for their students in addition to the formal academic goals.

In a similar vein, teachers of the sciences expressed stronger preference for academic goals for their students than did humanities teachers. Also, science teachers' preferences for social goals were weaker than those of humanities teachers. No differences were found for the personal domain. These results are consonant with the findings of

Grossman and Stodolsky (1994;1995) and Stodolsky and Grossman (1995), who demonstrated that secondary school social science teachers (closest to our "humanities" teachers), as compared with math and foreign language teachers (similar to our "science" teachers), viewed their subject matter as less defined and less sequential, and perceived themselves as more autonomous in terms of curricular policy and demands for coordinating course contents with others. These characteristics allow humanities more than science teachers to deviate from the established academic curriculum, if deemed appropriate, and to attend to social matters in the classroom. Accordingly, results here indicate that factors associated with subject matter do play a meaningful role in distinguishing among the goals that teachers establish for their students and thereby extend the findings of Grossman and Stodolsky to issues beyond the formal curriculum.

Results from the present study cannot unequivocally determine if the divergent goal orientations of science and humanities teachers existed prior to their career preparation years, developed during teacher education, or if there is some interaction between on-the-job experience and individual predispositions in operation before entering the teacher work force. Nevertheless, there are indications that experience as teacher of a particular discipline does play a meaningful role in the goal orientation one ascribes to. In the present case beginning science and humanities teachers had quite similar goal orientation profiles, whereas important differences were evident between veteran science and humanities teachers. This result does not rule out the possibility that science and humanities novices already hold disparate views but early career exigencies prevent inexperienced humanities teachers from applying their quiescent balanced goal orientations in practice. However, even if this were the case, it is likely that some factor incorporating experience and subject matter serves as a catalyst to facilitate humanities teachers' modified views.

We suggest that "latent messages" of the subject matter serve as a major factor that encourages relatively balanced goal orientations among veteran humanities teachers, but not among other teacher groups. By "latent messages" we refer to the

lessons learned by students, often of a moral, social or personal nature, that are not overt focal points of the formal curriculum. The latent messages of disciplines such as literature, history, and Bible often speak to moral, social and personal issues because this is the nature of the topics that these disciplines treat. When reading *A Separate Peace* by John Knowles (1959), discussing events associated with the Holocaust or analyzing the biblical chapter on the Sacrifice of Isaac, teachers and students are confronted with moral and social topics of extraordinary personal import. Direct treatment of these issues is common in classes of veteran humanities teachers and is often conducted as an essential pedagogical practice. Thus, social and personal learning become linked to academic and cognitive learning in these domains (see Yaakobi & Sharan, 1985). Accordingly, experienced humanities teachers see the effort to accomplish a variety of goals for their students as legitimate and appropriate.

This kind of thinking was frequently apparent in the comments of experienced humanities teachers. Three of many possible examples will suffice. One literature teacher stated, “the stories that we read in literature often deal with social issues. I exploit every opportunity to relate what we’re learning to events that we experienced together in class. The children are especially satisfied when they see the link between these things”. A history teacher asserted, “I try to change social attitudes by exposing them (students) to certain historical facts”. And a Bible teacher explaining her pedagogical strategies declared, “I encourage dialogue in class that is related to the topic we’re studying. In this way, they develop tolerance for others. A student that knows how to listen to others contributes to the atmosphere in the class”.

On the other hand, the latent messages of chemistry, math, and English as a second language less frequently comprise social or personal components. Rarely do social or personal issues arise in these classes as a natural part of the lesson. The subject matter of the sciences does not lend itself easily to drawing implications for the social and personal lives of the students. Accordingly, humanities teachers see greater legitimacy in striving to accomplish a variety of goals for their students as com-

pared to science teachers. But even for humanities teachers, the skilled pedagogical exploitation of the relations between subject matter and students’ personal lives requires a relatively high level of professional competence and confidence that comes only with experience. As noted above, it is primarily the experienced humanities teacher who feels sufficiently competent and in control of classroom events to allow public treatment of social and personal matters and the mingling of social, personal, and cognitive learning. Novice humanities teachers are far less willing to exploit the latent messages of their discipline by incorporating them systematically as part of the lesson.

Results of this study underscore the primacy of academic goals that most Israeli teachers report that they establish for their students and differ from much of the American research that found that teachers maintain more varied goal orientations (e.g., Lortie, 1975; Prawat, 1985). It is noteworthy that some interview questions used here specifically encouraged participants to discuss social and personal aspects of classroom life. Despite these prompts, few goal preference statements for these areas were made by respondents who were not experienced humanities teachers. A number of educationally substantive causes may be responsible for the discrepant findings in the two countries, such as different schooling values among Israeli and American teachers. It is also possible that sources only tenuously linked to education, such as semantic and linguistic differences, best explain the dissimilarity. The present study was not designed to determine the best explanation for the differences. In light of research indicating that individuals in varied cultural and educational communities have different understandings of basic concepts central to the educational process (Alexander & Dochy, 1995), further examination of this topic is warranted, especially in countries that have contrasting educational traditions.

This study may have significant implications for advancing our understanding of teaching and for the design of pre- and in-service teacher education programs. Data here indicate that veteran humanities teachers think differently about the purposes of education than do other teachers. Awareness of this phenomenon should enable school leaders to

be more sensitive and responsive to the varied concerns of diverse teachers especially during staff development and school change programs. It is also possible that, compared to their colleagues, experienced humanities teachers provide students a more balanced educational experience that fosters a variety of desirable goals. If educational leaders are interested in encouraging broader and more even-handed approaches to schooling, it should be instructive to carefully examine the developing pedagogical beliefs of these teachers and how they interact with work conditions. Insights gleaned from this analysis could be presented to teachers and other personnel for their consideration in staff development efforts. Finally, initial teacher education programs might encourage students to begin an exploration of their own deep-seated beliefs about the purposes of education and to view this process as an ongoing part of a teacher's professional life.

## Appendix A. Examples of teacher goal statements (translated)

### A.1. Academic goals

*Knowledge mastery*—"I would really prefer to use those hours for children who are having problems with the material, students who aren't succeeding in keeping up with the class ... and I could get them to learn the material in alternative ways that are more appropriate for them ... In my opinion, the most important thing is to teach the subject matter in an interesting and clear manner so that all of the children will understand what I am trying to get over to them".

*Facilitate thinking*—"What I want to emphasize is that each student has his way of thinking about things so I want to allow them to learn and to express themselves in different ways. I'll give them opportunities so that they can develop additional ways of thinking".

*Encourage motivation to learn*—"I need in-service training in diversifying teaching approaches. That will enable me to teach the subjects in more interesting and varied ways, to arouse their curiosity and instill in them a desire to learn. That's

terribly important to me that they adopt that kind of attitude".

*Develop learning skills*—"What a teacher should do is not to teach dry material, but to teach the child how to learn. The whole approach should be to improve learning skills, to develop independence, so that each child will learn according to his level and area of interest".

*Improve achievement*—"I think that in practice what I really have to do is to teach my very best in the discipline so they will make maximum progress improving their achievement. That's why they come to school. Other goals for the kids ... are also important but not primary like academic achievement and the matriculation exams".

### A.2. Social goals

*Develop interpersonal relations*—"I try very hard to encourage a constructive social system among the kids in the class which is good for them and develops their social bonding".

*Acquire sensitivity to others*—"It's so rewarding to me because I have a really positive group of children who are willing to help one another. They're interested in what happened to a classmate who hasn't come to school and even more than that, they care about one another. That's what I'm here for".

*Encourage tolerance*—"I felt that there was very important progress because kids who were originally locked into a particular position, by the end ... were willing to listen to the opinions of other children. I think that it is critical to get to the stage with them where they are tolerant and supportive of each other".

*Adjust to social norms*—"Since it's so important for them to learn how to get along in a social setting, I try to encourage lots of social activities in the class, like the children deciding on class norms and rules, deciding who is going to be responsible for different activities, deciding what's wrong with each other's behavior".

*Develop acceptance of difference*—"I felt that I really accomplished something important when the kids in the class learned to accept the exceptional children and to ignore certain things about them. That's the kind of education that's really important for them".

*Facilitate improved communication*—“I try to accomplish by the end of the first year ... that what really characterizes them is the ability to listen to others, from all ways of looking at the issue, to *listen* carefully to one another, to the inner self of the other. That’s important learning for them”.

### A.3. Personal goals

*Develop student as individual*—“The most important thing to me is to help each child develop his individuality because no child is ‘regular’. Each of them is a unique being”.

*Enhance student self-awareness*—“The most important thing has nothing to do with the subject matter, but to talk about what *you feel*, what *you want*, what bothers *you*. Two hours a week like that? Wow. If only it were true!”

*Facilitate healthy self-concept*—“Whenever and however I can, I try to work on awareness of strengths they have. Who am I? What are my characteristics? And to get the message across that all of us have positive traits”.

*Develop student self-confidence*—“Building self confidence is so important because the sense of success enables them to face challenges and to succeed in them no matter what the area”.

## Appendix B. Examples of teacher goal statements (translated) scored for intensity of preference

*Level 1* (in response to question #9)

*Teacher*—“Look, I know that my role as *mehanech* (homeroom teacher) requires me to be concerned about the kids’ personal development, but it’s hard to take that job seriously. We don’t have the time, or the tools, or the training, and the kids get much more interesting stimulation elsewhere. So what am I supposed to do? I think it’s hypocritical to say it’s important when in fact people don’t really do anything about it”.

*Level 2*—(in response to question #4)

*Teacher*—“In practice the most important thing I have to do is to teach the discipline as well as I possibly can. Only after that, once I’m pretty sure that they’re learning the material satisfactorily, other areas like values education and social and

personal relations become relevant. It’s not that these things aren’t important—they are—maybe even more, but achievement comes first”.

*Level 3* (in response to question #7)

*Teacher*—“Today, in our circumstances, there’s no possibility of paying attention to all of the kids’ attributes because, in the final analysis, curriculum coverage and keeping up a good pace is what counts”.

*Interviewer*—“What does this mean to you in terms of your goal priorities?”

*Teacher*—“Well ... what it really means is that teaching for achievement, for knowledge acquisition, is my highest priority because if you don’t do that well, you won’t be able to do anything else even if you want to. So, yes, there’s no question that improving their achievement is most important”.

*Level 4* (in response to question #3)

*Teacher*—“If I had another two hours a week I would devote them completely to social issues like problems in getting along in the peer group or problems associated with adolescence. Things like that. Look, as a teacher, I think that the most important thing we do is to educate the children to get along in society, to cooperate with one another and to relate in a constructive way to other people. After all, you don’t really need the classroom to learn the subject matter; you can do that individually or in other settings. So, if there are social problems in the class, and there almost always are some, it’s my job to help the kids deal with them even if it means canceling a lesson that I planned. Yeah ... if I got two hours a week to do as I like, I would be thrilled to use them for social matters”.

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