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SCIENCE AND MATHEMATICS TEACHER PERCEPTIONS OF THEIR PROFESSIONAL TEACHING ENVIRONMENT RELATED TO GRADE LEVEL AND URBAN SUBURBAN CONTEXTS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for

the Degree Doctor of Philosophy in the

Graduate School of The Ohio State University

By

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The Ohio State University
2004

Dissertation Committee:

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ABSTRACT

The main purpose of this study was to determine pre-service and in-service science and mathematics teachers’ perceptions of the characteristics of a professional teaching environment. The study further investigated the relationships of urban or suburban field placement contexts and 7-9 or 10-12 grade levels on pre-service teachers’ perceptions of importance and availability of certain aspects of a professional teaching environment.

The teacher perceptions were assessed using the Professional Environment for Teaching Survey (PETS). The responses reflecting the teacher perceptions of importance were subjected to a principal component analysis and two components were identified. These were Resources for Teaching and Recognition of Teacher Contributions. Teachers’ responses provided four dependent variables consisting of importance of Resources for Teaching, importance of Recognition of Teacher Contributions, availability of Resources for Teaching, and availability of Recognition of Teacher Contributions.

Data obtained from pre-service teachers who enrolled in a graduate teacher education licensure program at a large Midwestern university and from in-service teachers who were mentors for the pre-service teachers were analyzed using correlational and forward stepwise multiple regression analyses and multivariate analyses of variance (MANOVA) and univariate analyses of variance (ANOVA).

The results of the data analyses suggested that the perceptions of importance and/or availability of those pre-service or in-service teachers with more experience were
related to the academic degree they held and the content that they were teaching or were expecting to teach.

Pre-service teacher placement in urban context during the first quarter of their field experiences predicted low scores for the importance of the Recognition of Teacher Contributions, the availability of Resources for Teaching, and the availability of Recognition of Teacher Contributions. By the third and final placement, student teaching, urban field placement was no longer a significant predictor of pre-service teachers’ perceptions of either the importance or the availability.

For the in-service teachers, the most predominant predictor for both the importance and availability scales was teaching experience at the lower grade levels and particularly grade 8.
REFERENCES


the National Society for the Study of Education. Chicago: The University of Chicago Press.


Sutherland, F. (1994). *Teachers’ perceptions of school climate.* (ERIC Document Reproduction Service No. ED379214)


THE PROFESSIONAL ENVIRONMENT FOR TEACHING SURVEY
(THE PETS)
From the following list of resources and/or benefits circle:

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1. VI MI NI Time during the day, week, term, or year for reflection on your teaching and other professional activities

2. VI MI NI Sufficient funds to incorporate equipment-oriented teaching units into the classroom

3. VI MI NI Other teachers available to talk with and share with in the teaching of science

4. VI MI NI Opportunities to keep up with the latest developments in content and methods of teaching the various sciences

5. VI MI NI The opportunity to design, develop, and implement useful and creative curriculum units in my classroom

6. VI MI NI Public recognition and commendation of educational programs by newspaper, video, or television coverage

7. VI MI NI Public recognition and commendation of teachers by newspaper, video, or television coverage

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8. VI MI NI Letters of commendation of teachers from principals, superintendents, supervisors, or school boards

9. VI MI NI Letters of commendation of teachers from parent and other members of the community to principals, superintendents, supervisors, or school boards

10. VI MI NI Especially designed professional development opportunities or college courses and graduate programs for teachers

11. VI MI NI Opportunities for graduate level teaching, research, or study leave of absence support

12. VI MI NI Ready access to instructional materials such as printed materials, video equipment, manipulatives, software, calculators, computers, VCRs, and cameras for use in science instruction

13. VI MI NI Ready access to local, state, or national communication systems such as electronic mail, data processing systems, networks, bulletin boards, or 1-800 numbers

14. VI MI NI Ready access and support for science teachers from professionals and experts from areas of science, technology, science education, or research

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15. VI MI NI  Opportunities to interact and collaborate on a regular basis with other teachers at the same grade level  GA LA NA 15.

16. VI MI NI  Opportunities to interact and collaborate on a regular basis with other teachers at a different grade level  GA LA NA 16.

17. VI MI NI  Funds to use at your discretion for instructional and professional development needs such as projects, materials, field trips, technology, services, and travel to meetings  GA LA NA 17.

18. VI MI NI  Encouragement, assistance, or incentive to seek outside funding for improvement of science teaching and learning  GA LA NA 18.

19. VI MI NI  Flexibility in school scheduling within the day, the week, the term, or the year so as to be adaptable to special curricular needs  GA LA NA 19.

20. VI MI NI  Support available to the school (e.g., principal) to encourage and facilitate teacher innovation and inquiry  GA LA NA 20.

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21. VI MI NI A social and professional support systems of peers and collaborators including teachers with teachers, teachers with university faculty, or teachers with business and industry representatives

22. VI MI NI A forum for teachers and others to share ideals, ideas, concerns, problems, solutions, successes, and failures related to the efforts to improve teaching and learning

23. VI MI NI Publicly expressed appreciation for the capabilities and responsibilities of teachers

24. VI MI NI Evidence the public appreciates the value of and need for good teachers

25. VI MI NI An effective community support system

26. VI MI NI A public with a realistic view of what teachers need related to what is expected of them by society

27. VI MI NI Members of the community to serve as positive role models for children

28. VI MI NI A sense of "community" among teachers, parents, students, legislators, business and industry, work-force representatives, and administrators

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29. VI MI NI Adequate time and energy necessary to think and apply your professional expertise

30. VI MI NI Flexible scheduling and alternative schooling experiences which allow for in-depth study for students in their particular area of interest and expertise

31. VI MI NI The availability of communication technology such as telephones and modems in your classroom or nearby

32. VI MI NI The preparation you need to deal with the need to integrate content and processes of science with other traditional areas of study such as mathematics, social studies, language, the arts, business and economics

THANK YOU VERY MUCH FOR YOUR HELP