

Educators' Perceptions of Environmental Justice (EJ)

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Abstract

To explore perspectives of teachers who may address environmental justice (EJ) issues in the classrooms, this study investigates teachers' perceptions of EJ, attitudes toward teaching EJ, and perceived barriers in the teaching practice. Also, it is investigated how teachers' different teaching backgrounds are related to their perceptions of EJ. A survey instrument was developed based on the themes of environmental justice pedagogy from previous literature. Survey participants were 120 student teachers enrolled in four teacher preparation programs. The student teachers in this survey showed high level of EJ perceptions and they also appraised barriers to teaching EJ issues. Implications for EJ education are lastly offered.

INTRODUCTION

The field of environmental justice (EJ) education has been developed by several researchers (Warren 1996; Cheng-Levine 2002; Bowers 2002; Zehle 2002; Hill 2003). For example, Bowers (2002), Zehle (2002) and Hill (2003) discussed key concepts of EJ education

which included not only ecological but also cultural, economic, and political processes. Bowers (2002) suggested environmental racism, recovery of the non-commodified aspects of community, and responsibility to future generations as the main focuses of eco-justice pedagogy, while Zehle (2002) proposed ecological democracy, colonialism and commodities, and eco-internationalism as the key concepts of EJ education. According to Hill (2003), city problems, agriculture, facility siting, and labor issues additionally need to be involved in EJ education. Meanwhile, Cheng-Levine (2002) and Warren (1996) suggested ways of addressing EJ themes to their college students. Cheng-Levine (2002) used literature to deal with EJ issues in a meaningful, less threatening manner, and Warren (1996) exposed her white students to a community of color with environmental hazardous facilities to teach them about environmental racism. All of them partly answered ‘what to teach’ and ‘how to teach’ about environmental justice.

However, these studies were mainly concerned with adult, popular, and community education. There are not enough studies on K-12 students and teachers regarding EJ issues. If EJ education is to be successful, it is important to understand the attitudes and perspectives of teachers who are now addressing and who are possibly going to address environmental justice issues with the student. To investigate teachers’ perceptions of EJ as well as their attitudes toward teaching EJ issues, this study used the following research questions:

- 1) What are the teachers' perceptions of EJ?
- 2) What are the teachers' attitudes toward teaching EJ?
- 3) What are the teachers' perceptions of the greatest challenges in teaching EJ?
- 4) How are teachers' teaching backgrounds related to their perceptions of EJ?

METHODS

Survey Instrument

A survey instrument was developed based on the common themes of environmental justice discussed in the previous studies. Statements of the instrument were adapted from *Principles of Environmental Justice* (1991) and the studies on perceptions of environmental justice issues (Jones 2001; Williams & Florez 2002). These statements were organized by the three main focuses of Bowers's eco-justice pedagogy (2002).

The draft instrument was reviewed by five content validity panelists who have expertise in eco-justice, social justice or science (environmental) education. Five panelists reviewed each statement of the instrument to ensure the appropriateness and clarity. To examine the reliability of the instrument, Cronbach reliability tests were performed. The internal consistency reliability of the instrument was satisfactory.

The structure of the instrument is presented in Table 1. The instrument consisted of three sections. A four-point Likert scale was used to specify respondents’ familiarity with the essential elements of EJ and their level of confidence in teaching EJ. The scale ranged from 1 to 4, 1 meaning “Strongly Disagree” and 4 meaning “Strongly Agree.”

Section	No. of items	Cronbach’s alpha
A. Perceptions of Environmental Justice		
(A1) Environmental Racism and Class Discrimination	8	0.791
(A2) Recovery of the Non-commodified Traditions of Community	8	0.836
(A3) Responsibility to Future Generations	4	0.590
B. (B1-B4) Attitudes toward Teaching Environmental Justice	4	0.869
& Barriers to Teaching Environmental Justice	Open	N/A
C. Demographic		N/A

Table 1: Structure of the instrument and the internal consistency reliability

Survey Participants & Data Analysis

For the data collection, the questionnaire was distributed to student teachers enrolled in four teacher preparation programs at a large research university in the Midwest: Early Childhood, Middle Childhood, Secondary Social Studies, and Secondary Science Education programs. The responses from these four groups were used to investigate differences among the groups based on student teachers’ teaching levels and subjects. Out of 131 questionnaires distributed, 124 questionnaires were returned (response rate 94.7%). After discarding incomplete responses, the

researcher analyzed responses from 120 student teachers.

The Statistical Package for the Social Sciences (SPSS) was used for data analysis. A one-way ANOVA was used to explore the relationship between teachers’ perceptions of EJ and their teaching backgrounds.

RESULTS

What Are The Teachers’ Perceptions Of EJ?

Respondents’ perceptions of EJ are revealed in Table 2. As a group, the student teachers in this survey ‘agreed’ with EJ statements (above 3.10 in 4-point Likert scale: 3 = agree, 4= strongly agree).

A. Perceptions of Environmental Justice	n (# of items)	Mean (SD)
(A1) Environmental Racism and Class Discrimination	120 (8)	3.12 (0.46)
(A2) Recovery of the Non-commodified Traditions of Community	120 (8)	3.10 (0.50)
(A3) Responsibility to Future Generations	119 (4)	3.29 (0.48)

Table 2: Teachers’ perceptions of environmental justice

What Are The Teachers’ Attitudes Toward Teaching EJ?

Teachers’ attitudes toward teaching environmental justice issues, on average, are favorable. The four statements revealing teachers’ attitudes are given in Table 3. Students teachers in this study strongly believe that “it is important to teach students about *Responsibility to Future Generation*” (mean=3.49) while the attitude toward teaching about *Recovery of the non-commodified traditions of community* (mean=3.06) was less favorable than other categories. This result demonstrates a similar tendency to the perceptions of EJ (See Table 2). As perceptions of *Responsibility to Future Generation* showed a higher level of agreement, and *Recovery of the non-commodified traditions of community* had a lower level of agreement, the results of teachers’ attitudes toward teaching *Responsibility to Future Generation* and *Recovery of the non-commodified traditions of community* were similar. Meanwhile, the statement that had the lowest level of agreement (mean=2.73) was that “it should be required for pre-service teachers to take coursework to make them aware of environmental justice issues.”

B. Attitudes toward Teaching Environmental Justice	N	Mean (SD)
(B1) It is important to teach students about <i>Environmental Racism and Class Discrimination</i> .	118	3.31 (0.79)
(B2) It is important to teach students about <i>Recovery of the Non-commodified Traditions of Community</i> .	113	3.06 (0.81)
(B3) It is important to teach students about <i>Responsibility to Future Generations</i> .	120	3.49 (0.62)
(B4) It should be required for pre-service teachers to take coursework to make them aware of environmental justice issues.	118	2.73 (1.02)

Table 3: Teachers’ attitudes toward teaching environmental justice

What Are The Teachers' Perceptions Of The Greatest Challenges In Teaching EJ?

Barriers to teaching environmental justice were queried in the questionnaire. When asked to prioritize up to three factors that could be barriers to addressing environmental justice issues, the survey participants frequently reported 'Time limits' (76.7%) as the most important barrier. Teachers' perceived barriers to addressing environmental justice issues are listed in Table 4.

Barriers to Teaching Environmental Justice	Frequency (%)
Time limits	92 (76.7%)
Not related to my curriculum	52 (43.3%)
Not enough resources and materials	51 (42.5%)
Developmental level of students	34 (28.3%)
Other	21 (17.5%)
Pressure from parents and colleagues	13 (10.8%)
No confidence	13 (10.8%)

Table 4: Teachers' perceived barriers to teaching environmental justice

Among the written responses to the 'Other' category, some people (n=10) wrote that they "do worry" about EJ issues in their teaching or they currently "teach" about EJ even though those barriers existed. On the other hand, some people (n=6) mentioned that they were not willing to teach EJ because of "personal beliefs" or because it is too "political" to teach students.

How Is Teachers' Teaching Backgrounds Related To Their Perceptions Of EJ?

Findings related to teaching level and subjects. Student teachers' EJ perceptions and attitudes toward EJ teaching were examined based on their teaching levels and subjects. There were statistically significant variances in terms of A2, A3, B1, and B3 among the four groups. In particular, the mean scores reported by Secondary Science student teachers were significantly lower than other groups.

Findings related to gender. Also, significant differences between female and male respondents were found in A2, A3, B1 and B3, with females reporting higher mean scores than males.

Findings related to experience in taking justice-related courses. Some of the student teachers (n=34, 28.3%) in this study reported that they had taken courses that related to social or environmental justice issues. There were significant differences between the two groups in all sections: the group that had taken environmental justice-related courses reported higher perceptions of environmental justice than the other group (n=84, 70.0%). The first group, also, showed more positive attitudes toward teaching EJ. This result supports the importance of teacher education in the success of teaching EJ.

IMPLICATIONS OF THE STUDY

The findings in this study suggest several implications for the development of EJ education and research.

First, considering that the student teachers who had taken justice-related courses showed higher level of EJ perceptions and more positive attitudes toward teaching EJ than the others, it is necessary to encourage pre-service teachers to take social or environmental justice-related courses during their professional development period.

Second, there should be efforts to reduce external barriers in EJ education, such as ‘time limits’ and ‘not enough resources and materials’ along with the efforts to reduce internal barriers which are related to perceptions, attitudes, and/or personal beliefs. Given the political aspect of EJ concepts, teachers also need to be aware of their roles as educators, not activists, in the inquiry in environmental justice issues.

Third, environmental justice issues which are concern for others’ situations and feelings would be more easily valued by females. This finding also supports the predominant conclusion of research in social sciences that females seemingly hold higher empathy level than do males.

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