

The History and Trend of EE Research in China

Qing TIAN

Environmental Education Center, Beijing Normal University, P.R.China

ABSTRACT

After the contents of the academic papers in EE from 1979 in China are analyzed and the paper numbers are made quantity statistic the fact that EE research began hotter and hotter in China after 1994 is discovered. And from 2000 the contents and research method mentioned in some academic papers in EE in China disclose the trend of EE transforming to the direction of ESD. It is from 2004 that the trend of EE to ESD is disclosed by the fact that the number of EE academic paper is decreasing and ESD paper number is increasing in China. In most of these academic papers the significance of EE and introduction of EE in other countries are their research contents. The methods mentioned in these papers corresponding with the mainstream education research methods means that EE is sensitive to mainstream education and can respond to it in time. But most research method used in these academic papers is single metaphysics method. Positivism research method and humanistic quality research method are insufficient. The analysis to the authors of the papers discloses that the researcher number is unstable for the reason of research fund shortage, which is also the reason for the absence of positivism research and humanistic quality research in EE in China.

Key words: Environmental Education, Academic paper, Quantitative statistic, Sustainable Development

One of the roles of academic paper is to reflect the development history and trend of a research area quickly. In this paper the history and trend of EE research will be discovered after the numbers and contents of the academic papers in EE from 1979 being analyzed in China.

The Numbers of Academic Papers in EE in China Analyzed

The starting point of EE in modern meaning was in 1973 in China influenced by Human Environment Conference in 1972 in Stockholm. Taking "Verbatim Record Data Base of Academic Journal in China" (2006) as information source and using "Environmental Education" as key word 4257 papers are searched from 1979. After the repeated papers, book sale information and advertises being picked out there are 3831 academic papers in EE in China from 1979. The distribution of academic papers in each year from 1979 is illustrated in figure 1.

During the period of 1979-1993 the maximum number of academic paper is 25 in 1993 (Figure 2). There is only 1 paper in 1979, 1981 and 1985 separately. Not more than 5 papers every year during 1979-1988 and 10 papers during 1989-1992. The reason for paper shortage in this period is that people in China pay all attentions to economic development at that time. There is only a small number of researchers concerning about EE in university, institute or National Environmental Protection Bureau.

The annual number of academic paper in EE is more than 100 after 1994 (Figure 1). From then on the increasing trend in paper number sustains from 1994 to 2000. In this period people all over China

concerned about EE step by step. The Chinese Education Committee at that time required school to permeate EE in varied subjects and carry out EE in out class activities time, which are written in Chinese Education Syllabus for Primary and Middle Schools. And then there are responses to EE from schools. In the mean time the environmental issues breakout together at that time. People in cities have clear perception to the pollution like air pollution and rubbish issue. Peasants in village also have perception to the chemical pollution. All kinds of EE institute and NGO in environment appeared quickly. The requirement for EE from people increased greatly. Researchers interested in EE also increased greatly. Most of researcher in EE at that time is in university, institute and schools.

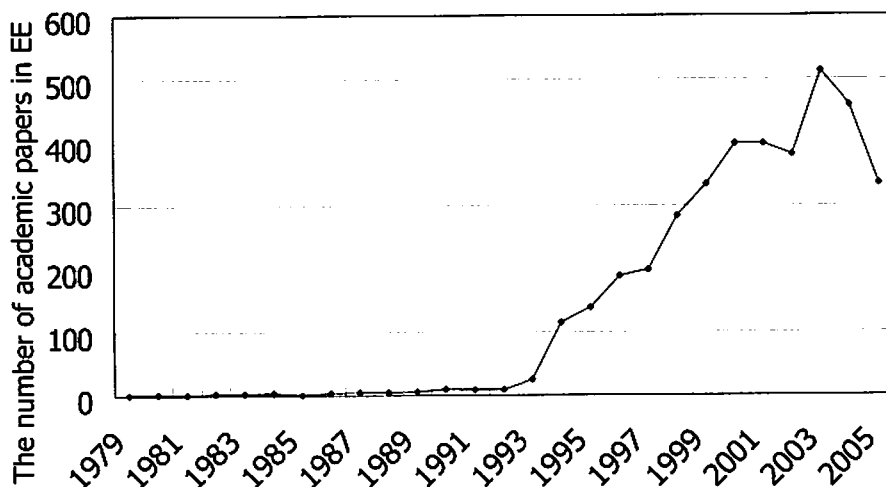


Figure 1. The number distribution of academic papers in EE during 1979-2005 in China

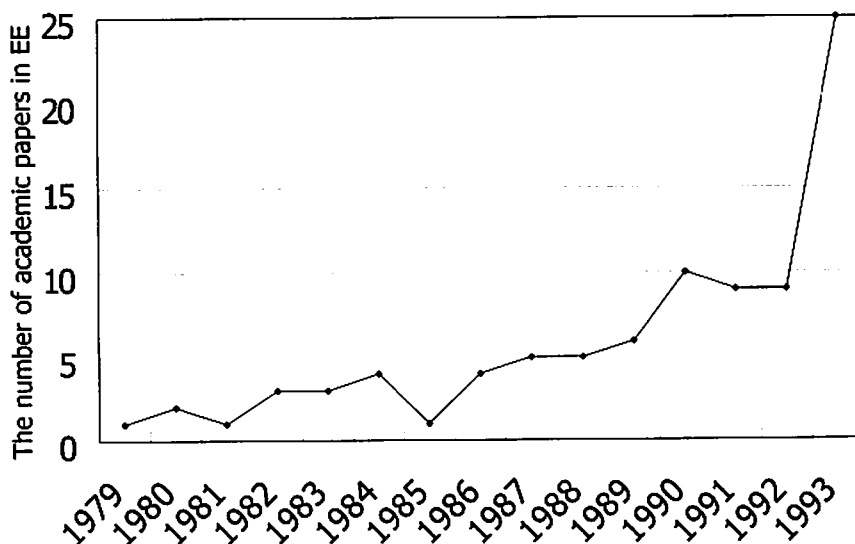


Figure 2. The number distribution of academic papers in EE during 1979-1993 in China

From 2000 to 2002 the number of academic paper in EE keeps stable (Figure 1). In this period people are more and more familiar with EE. The numbers of institute in EE and environmental NGOs began to keep stable. Most of researchers are in university or as schools teachers.

The number of papers increases in 2003 (Figure 1). The reasons are researchers' responses to both Sustainable Development Earth Summit in Johannesburg in 2002 and Chinese Ministry of Education enacting EE guideline and syllabus for schools.

From 2004 to 2005 the number of paper decreases. The reason is that some researchers begin to use "Education for Sustainable Development" instead of the word of EE. So the number of paper in EE decreases but the number of papers in ESD increases.

The Contents of Academic Papers in EE Analyzed in China

There are only 63 papers in EE before 1992. The contents of these papers include: the significance of EE, the strategy research in carrying out EE in schools (Xiangli JIANG, 1983) or experiences in EE practice sharing (Rukang FANG,1979; Jiabin WU, 1980; Xiangli JIANG,1983; Li ZHANG,1992), the trends of EE in other countries. Researching on the significance of EE emphasis values of EE in economic and in children's intelligence development at that time.

There are 468 papers in EE during 1993-1996. The contents of these papers include: the significance of EE, the trends of EE in other countries, the research and experiences sharing in EE carried out in the subjects of Chemistry, Biology and Geography, research on carrying out EE in varied school levels (Nai-an, REN, 1993); Research on the significance of EE emphasis the values of EE in quality education for students (Ren DA, 1994; Weiqiang WANG, 1994; Lanqing LI, 1994; Lanqing LI, 1995).

There are 817 papers in EE during 1997-1999. The contents of these papers include: the significance of EE, the trends of EE in other countries, the method and way of permeating EE in varied subjects and out class activities, the investigation of EE situation in schools, the strategy and way of carrying out EE in varied school systems. Research on the significance of EE includes the values of EE in quality education for students, the ethic value of EE, the significance of EE in stewardship and sustainable development (Linkui LIU, 1997; Wenhui YE, 1998; Zhiyue GU, 1997).

There are 2483 papers in EE during 2000-2005. The contents of these papers include: the significance of EE, the trends of EE in other countries, the relationship between EE and Sustainable Development, the method and way of permeating EE in varied subjects, Greenschool, the achievements of varied EE project sharing, EE in varied education levels or fields like in formal education/in community/in minority nationality area/in mountain area/in western China/in university, the strategy of resolving the problems about EE facing in formal education system, the evaluation of EE, the investigation of EE situation in schools, the strategy and way of carrying out EE in varied school systems. Research on the significance of EE emphasis EE as one of the ways to develop citizen awareness (Xiangrong LIU, 2002; Yi ZOU, 2005), emphasis the relationship between EE and Sustainable Development, concerning about environmental equity and justice (Ranran XU, 2005; Qiyang SONG, 2005) and the cultural values of EE (Liuming LU, 2005; Minghai WU, 2005).

The research of EE reflected from research contents is transforming to concern about issues in social dimension like environmental equity, environmental justice and promoting social sustainable development.

The Author Analyzed and Research Method Mentioned in the Academic Papers Analyzed in EE in China

In the papers from 1979 there are more theory researches than practices researches.

The method of theory research is only metaphysics in most of these papers. Positivism research method and humanistic quality research method were insufficient. The reason for this is that

research fund is always shortage in EE in China. This also results in the number of researchers unstable. The statistic shows that more than 95% authors in these papers are the first time to publish paper in EE and never publish paper in EE again. Not more than 5% authors show that there is fund to support their research. Most of the researchers have to support the research themselves. The reason for research fund shortage is because EE belongs to interdiscipline in China. Both environmental science and education area denies and ignores it together. There is no space either in environmental science or education area. Shortage in research fund and unstable number of researchers restrains the development of the academic level in EE. So the research level of EE in China is still low now.

The research methods mentioned in these academic papers in EE include: inquire-based learning (Chenghan XU, 2005), field trip (Zuqiang WU, 2001), action research (Chengmu LIN, 2005). The ways for carrying out EE mentioned in papers include: out class activity, permeating EE in multi-discipline, theme researching (Kemin LIU, 2003), comprehensive practice activity (Hongyan WANG, 2004; Zhonghui XU, 2003) and community service (Chengjin LI, 2005; Guangyou XU, 2005; Jianhua LIU, 2003).

Looking from the methods and ways for EE carried out, which are mentioned in these papers, that EE is sensitive to response to the mainstream educational method can be concluded.

Conclusion and Research Trend of EE in the Future

According to the paper number of ESD increasing and the paper number of EE decreasing from 2004 to 2005 the trend of EE transforming to the direction of ESD is clearly.

Looking from the research content in these papers the themes like environmental equity and justice relate more closely with social dimension. So EE transforming to ESD is more clearly.

Looking from the methods and ways for EE carried out, which are mentioned in these papers, that EE is sensitive to response to the mainstream educational method. That means it is ready for EE to transform to the direction of ESD in methodology.

So it is the inevitably trend for EE to transforming to the direction of ESD in China. But about how to transform there are still huge gap between theory and practice and many uncertainties for researchers in EE to face in the future.

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