



Environmental Education and Its Social Effects

Izabela Piecuch

Gdańsk Higher School of Humanities

Tadeusz Piecuch

Koszalin University of Technology

1. Introduction

Social pedagogy is a field of science originating from sociology and associated generally with the process of upbringing of particular social groups or particular groups of people in a given area (villages, cities, countries, etc.); according to S. Kowalski (and we quote): “*it is a component of the general social development and of the preparation of future generations for their creative participation in the dynamics of social and cultural progress.*” (end of quote) [6].

The statement provided above already indicates that the scope of interest of social pedagogy is very broad and that the field can be divided further into specialized areas related directly to a given situation, to the reaction of particular social groups in a given area to a problem that troubles them, worries them, and that often becomes the cause of social conflicts.

Such references can be classified as:

- political references (including the so-called ethical beliefs, morality, and particular principles),
- economic beliefs (which are often connected with political beliefs),
- industry beliefs in a particular situation (e.g. doctors, lawyers, teachers, scientists, etc.),
- beliefs connected with the state of the natural environment (which can be directly connected with the beliefs regarding economic development), that is the general approach to the so-called environmentalism,
- etc. etc.

Of course, the examples of the so-called fields of cohesive beliefs of particular social groups mentioned above can be to a large extent included in the concept of sustainable development (Yuchang Cao, Piecuch I.) [25].

Sustainable development is determined by four major parameters, as follows [7, 8, 9, 10]:

- technology development, that is – development of the economy,
- capital development, that is – development of the banks (saving),
- social development, that is – development of welfare with regard to a given social group (in a given country, over certain society),
- protection of the natural environment (environmentalism).

Of course, the issue is that all of those 4 parameters must develop in accordance with certain proportions because if one of them dominates over the others, it automatically delays and stops the development (in this case, the general value increase) of the other parameters.

Social pedagogy as a field originating from sociological science is extremely important in order for a given society – both with respect to particular social groups, professional groups, or to a given local community – to understand this aspect of sustainable development.

With reference to the above, it is easy to observe that the fourth parameter of sustainable development, that is – environmental protection or environmentalism, is also connected with the broadly and appropriately understood social pedagogy involving the so-called permanent education – from preschool, through primary school, secondary school, high school, college studies, to professional career (training) and the Universities of the Third Age which are so fashionable nowadays [21].

The present work or publication is, thus, focused on the last aspect, that is –social pedagogy with respect to environmental protection.

2. Environmental education

Environmentalism – now such a fashionable scientific term, often overused or incorrectly used, refers to environmental protection in the most general sense.

Of course, such a simplified definition is very general as environmentalism encompasses not only protection of the natural environ-

ment, but also of the health of people who should live in a healthy environment. It is the poor condition of the environment that is the cause of many diseases of the modern civilization that are now referred to as the civilization diseases, including, among others, oncological diseases, the diabetes, neurological diseases, etc. (Górska) [1].

Thus, it is understandable that particular social groups are already aware of the fact that they are concerned about the pollution of the natural environment in which they live; however, they are often not aware that every person contributes to the pollution by the very fact of living in the area and using modern technologies. This means that human beings have a destructive influence on their health and it is often this aspect with respect to particular social groups, in this case – groups functioning in a given area – whose inevitability they do not fully realize and this, in turn, is still (despite obvious improvement) the result of insufficient environmental education which can here be simply referred to as social pedagogy.

Different kinds of social associations – referred to as environmental associations – which register in particular areas (municipalities, cities) as legal entities and then protest against any necessary and vital actions aiming at the economic development of the given area due to their lack of understanding of the essence of the problem, despite their generally good intentions, or even act in a way that is destructive to the environment in which they live can serve as such a concrete example. Such curious phenomena are really common nowadays.

In the works written on the subject, such actions are referred to as social participation as an element of democracy [6].

According to Surdeja [24], the so-called levels of social participation are distinguished:

- the first level is spontaneous participation,
- the second level is institutional participation.

In the case of environmental protection, both of those types of participation are combined as the associations start protest campaigns in an *ex officio* manner in a way (such activity is part of the status that they register in the court) and the given community, e.g. the local community, uses the opportunity to join the campaign which means that they raise their voice spontaneously.

Of course, the community, e.g. the local community that starts protest campaigns focused on environmental protection should have certain, even if very general, knowledge on the subject and this should not apply only to the leader (leaders) that head the protest [21].

Such knowledge should be acquired in the form of an environmental protection habit developed as early as in the kindergarten age [21] and, most importantly, in the school age years [4] up to, inclusively, the University of the Third Age [2, 21].

In her publication, Maria Mendel [4] mentions, among others, (p. 227) that schools are clearly becoming more open to the needs of the local community, including not only the parents of the children that attend a particular school [4]. Thus, it is such schools – their communities comprising of the teachers, the pupils, and the parents that should shape the attitude of the local community with respect to the problems the community is concerned about [2], including, for example, the assessment of the justification for completing particular investments from the environmental protection perspective. The fact that the pupils are mentioned above next to the teachers and the parents is not devoid of long-term prospects, even in the near future, as the pupils will become full citizens (when they turn 18) which means people that participate in the life of the given community through voting in the elections, joining different organizations and associations and, most probably, also continuing to shape their personality through further studies on their way to adulthood.

Thus, the present work indicates the interaction between social pedagogy and environmental education, even if it constitutes a component of a bigger whole.

3. Typical examples of lack of environmental education

Example 1

A given society living on a given territory produces sewage of the so-called municipal sewage (in other words – household sewage) type and often, if it is an industrial area, also of the industrial effluent type, sometimes preliminarily treated as part of the operation of a given production plant and then disposed of to the sewage system, where it is most often mixed with municipal sewage.

Thus, it is absolutely necessary to build a sewage treatment plant (owned by the municipality, the city, etc.) in the area. Apart from the

financial resources that are very difficult to obtain nowadays, the construction of a sewage treatment plant also requires, most of all, a place where such an investment could be located. It is exactly at this stage of the investment process where the most serious difficulties arise as protest campaigns of the so-called environmental movements (associations) that really raise objective reasons for which such an investment should not be located near their place of residence are practically almost always held.

The most commonly used pieces of justification negating the completion of this type of investment are as follows:

- the investment is too close to the city center,
- agricultural areas; ecological farming,
- areas located close to a water intake station,
- landscape park area,
- sanatorium areas, health resort areas, holiday (tourist) resort areas.

If the objections provided above were to be applied to different areas in our country, justification for not making such an investment will always be found.

In the current time of a functioning democracy, the local authorities (e.g. the village head, the mayor, the president, the staroste, etc.) must agree to any investment and those local authorities are selected by means of democratic elections which means that the very local community that decides on the election of the given authorities will decide for the authorities to lose their positions in the next election if those authorities (the village head, the mayor, the president, the staroste) take a decision that is not in agreement with their expectations (this also pertains to the aldermen that constitute a given local government).

A consequence of the phenomena of this type in the Polish conditions is, thus, often resignation from the completion of particular investments which, in turn, causes the sewage from the areas to be disposed of to open reservoirs – rivers, lakes, or to the sea, and the consequence of that is that the ultimate environmental conditions for the people living in a given area are worse than if the agreement for such an investment could be obtained, despite certain inconvenience.

Nowadays, also the employment that such an investment would provide to the people living in the given area cannot be overlooked as it is very important in the context of the current unemployment rate.

Finally, it must be mentioned that a certain buffer zone must exist around such an investment as the odor nuisance caused by such a sewage treatment plant is considerable. Thus, finding the appropriate location for such an investment sometimes involves the need to demolish the surrounding buildings, and, thus, also to displace a portion of the inhabitants of the given territory (similarly as in the case of road construction investments). That is why it often involves multiple lawsuits, difficult negotiations of the so called claims, etc.

Social understanding for such a situation is then clearly connected with environmental social pedagogy.

Example 2

Another example of an environmental investment that is still burdensome to the environment is locating a Municipal Services Plant which, to put it simply, is a municipal waste dump sometimes used also for dumping other types of waste in a given area.

Of course, similarly to example 1, the reasons for which the local community does not agree for a waste dump site to be located near their place of residence are the same. There is a common unwritten rule according to which **waste dump sites should be created in the neighboring municipality**. Such municipal waste dump sites also emit intensive, unpleasant odors and require the creation of buffer zones. The lack of such sites, on the other hand, leads to the accumulation of large amounts of the so-called unauthorized dumps (especially, in forest areas) which appear as the proverbial nightmare of modern civilization, and sometimes simply great difficulties with the disposal of waste from residential houses (often occurring too rarely) as the existing, currently operational dump site either does not accept such amounts of waste or the waste must be disposed of in a very distant location which leads to the increase of rent rates for the residents living in the given area, etc. Thus, the role of environmental social pedagogy is very important here as well.

Example 3

Another example is the need to construct the so-called thermal recycling facilities which are commonly referred to as waste incinerators.

The process of burning organic substances (meaning substances whose chemical composition includes carbon) has been known from the dawn of the history of primitive man. However, the state of the art which

is the result of scientific development followed by technological development indicates that the most serious problem to be faced while implementing this type of investment is protecting the atmosphere from the fumes and the problem of neutralizing, treating, and, most preferably, using or utilizing secondary waste.

The level of knowledge of the local community is generally almost always so limited that it leads to direct concerns about the harmfulness of such neutralization technology and partial waste disposal to the environment and to the particular social group on the given territory and that is why the community basically rejects any factual explanation, including the fact that the threat to the environment that such technologies pose is limited (on the condition that they are well designed which usually means that the appropriate financing is provided, that the quality of the solution constructed is high, and that the facility is used in the appropriate manner).

Thus, this case can serve as another example of the lack of appropriate environmental education, that is – the appropriate pedagogical actions conducted in such a community as early as possible, as already described above. Here again, environmental associations active on the given territory get involved, and they are often registered by initiative groups solely for the purpose of running protest campaigns connected with a particular investment.

Local communities do not realize, of course, that the construction of such an investment is often necessary and the only concern is for the efficiency of such a thermal waste treatment plant to be adjusted to the current needs after all the alternative methods of managing municipal waste are considered (including the option of composting biodegradable waste if possible which involves the production of the so-called humus which can be used as a fertilizer for certain types of soil, for reclamation purposes, etc.).

This also involves the aspect of creating new jobs – often for the graduates of technical and economic faculties of our universities – which will also be offered to members of the particular community.

Example 4

Finally, another example of an investment that is not connected with environmental protection but that can currently be completed with

social agreement is a manufacturing plant which can even be dangerous to the environment but which is a fundamental city-forming factor. Typical examples of such plants in the West Pomeranian Voivodeship include the POLICE Chemical Plant in Police and the POLSPAN-KRONOSPAN Wood Processing Plant in Szczecinek.

This has always been a concern and the reason for many disputes as to what would happen if the operation of such plants (for example, the ones listed above) were to be stopped due to a formal warrant, ban, or strict inspection regarding the violation of environmental protection standards.

Political system changes in our country after 1989 in which environmental associations, including the Green Party (its Polish branch) participated very actively, also in the political sense, led to the closure of a large number of production plants in the whole country. One of the best examples was not only the liquidation of a number of coal mines in the Mysłowice – Jaworzno – Siersza region but, most of all, the liquidation of the Polish steel industry involving the so-called black metallurgy that is – iron industry [22]. The majority of the so-called raw steel steelworks plants which were closed were located in Silesia (the Pokój Steelworks, the Kościuszko Steelworks, the Bobrek Steelworks, the I-go Maja Steelworks, the Szczecin Steelworks, the Blast Furnace Sections of the Siędmir's Steelworks in Krakow, and the I Maja Steelworks in Gliwice as well as steelworks of a different profile such as the Batory Steelworks in Chorzów, the Baildon Steelworks in Katowice). The Non-Ferrous Metal Works in Katowice and a few coke plants in Silesia were also closed. Similarly, many less toxic textile plants in Łódź (which were sold to foreign capital and then closed) and other chemical plants and non-ferrous metal works were also closed.

It is difficult to list all such cases, even if only the most important ones, in the present work but what is important is that they all contributed to a high level of unemployment and one of the main postulates, apart from the postulate of privatization as an aspect of liberal economy, for example, was environmental action. Thus, it is easy to notice that the proportions between different parameters of sustainable development have been disturbed as a large number of people, often the only breadwinners in their families, have lost their jobs in the name of environmental protection, among others.

One can, thus, ask a rhetorical question whether the so-called social pedagogy in environmental education was adequate in such cases for particular social groups influenced by political party leaders and trade union leaders to support concrete programs advertised as the recipe for the development of our country.

Of course, the above should not be understood in any way as an opinion on the subject of favoritism or lack of favoritism for the parameter of environmental protection isolated from the context but only and solely as a way to create awareness about the need for environmental education that would make it possible to avoid distortion of the proportions of sustainable development parameters. It is with respect to that area that social pedagogy which influences the awareness of a specific human population can play an important role.

4. How to apply social pedagogy to environmental protection?

Environmental awareness, including, for example, the awareness of a particular group of people living in a given area is, of course, most often based on the information passed by smaller groups or their representatives, that is the so-called activists who initiate, propagate, and then also impose certain more or less radical attitudes towards a given problem, e.g. the problem of environmental protection, through registering associations as well as through the media. Of course, the views of the groups of activists may not necessarily be justified – most often, they are partially justified, and partially representing completely the opposite. If, then, a given community, for example – a local community, is properly educated, it is not that easy for it to absorb everything that is propagated by the activists, including the media, and it can be stated that it is resistant to certain propaganda.

The notion of resistance should be understood in this context both in the sense of the resistance of the local community to propaganda, that is – to imposing excessive tendencies to protect the environment at any price, but also resistance to a different kind of propaganda, according to which a given investment is completely harmless to the environment (which now happens especially when the concerns constructing the so-called thermal recycling facilities refer to their lack of negative influence on the environment).

It is obvious that the notion of crowd psychology does exist in practice.

As it is known, for example from the media, the emotions associated with environmental protection are often no less intense than the emotions demonstrated by football fans, maybe not so intense in a short period of time but intense enough over a longer period, more consistent, because in this case their level does not fall in a few hours or on the next day as it is in the case of the emotions associated with a football match.

Thus, an obvious conclusion as to the need for permanent environmental education appears, as stated by Piecuch I., Piecuch T.: „it is never too early and it is never too late” [21]

Here, the formula included in the work of Piecuch I., Piecuch T. [21] in accordance with which **environmental protection must constitute a habit** both in the case of individuals as well as the given local community and beyond, can be referenced.

5. The authors' own research

5.1. The scope of the authors' own research

The authors' own research was conducted with reference to one of the four examples of social reaction to different investments presented above – namely, example 3 which illustrates the attitude of the local community to the proposal of constructing a thermal waste treatment plant (referred to as the Thermal Waste Treatment and Recycling Facility) in Koszalin.

The construction of such a thermal waste treatment facility with the capacity of 94 thousand tons/year of energy waste is planned in Koszalin practically within the borders of the city territory [18–20], among others.

A number of meetings with the citizens of the city of Koszalin in which both the representatives of the design companies and the citizens of Koszalin, including people united in a few environmental associations that function in the city participated were organized in relation to the construction, in accordance with the so-called logistics of the construction project, that is proceeding with it at the early stage of the project when the technical and economic assumptions are formulated.

Despite their active participation in the discussions held during the meetings, the majority of the representatives of the so-called environmental social movements did not have specialized knowledge in this area and their partial awareness of the problems resulted only from their own interests and the lecture of potential publications popularizing the subject and from what they have heard in the media.

Professor Tadeusz Piecuch, PhD Eng., participated in a few of those meetings, including [11–16], as an expert representing the City Council of Koszalin and he also prepared three expert opinions for the City Council of Koszalin, including [18, 19], as well as one expert opinion on the construction of a thermal waste treatment plant in the Szczecin Metropolis [17]

The position of the expert, Professor Tadeusz Piecuch, was completely neutral, both with respect to the City Council of Koszalin and the social environmental association organisations and it did not, de facto, represent the interest of any of the parties but only the expert's opinion on the technology to be implemented [18–20]

At the same time, Professor Tadeusz Piecuch, not only in his answers to the questions asked by different parties during the meetings but also during a few of the so-called ordered lectures, including a lecture broadcast directly by a local TV station, TV Max in Koszalin on 27.03.2010 (and then repeated multiple times), and during two lectures ordered by environmental organisations in Szczecin, two lectures in Koszalin and one in Szczecinek, Kalisz Pomorski, Bobolice, Manowo, presented what the thermal waste treatment technology should involve to be efficient and acceptable in our conditions as well as relatively safe to the environment and necessary as the so-called lesser evil, that is – indispensable.

The information provided above is very important here as the authors' own research involved performing surveys during which the respondents were asked the following questions: **are you for the construction of a thermal waste treatment plant in Koszalin with the assumption that it will use innovative, efficient technology?**

The scope of the research included two populations, that is:

- separately, randomly selected citizens of Koszalin (930 people),

- separately, randomly selected students of the environmental engineering faculty and of the environmental protection faculty of the Koszalin University of Technology (80 students).

5.2. Research methodology

While considering the research methodology to be assumed, that is – formulating the questions and the types of answers, it is possible to simulate the potential answers of the respondents with the use of the so-called theoretical logical analysis.

Thus, the authors provided the respondents with 5 possible answers to the question presented above that was asked in the survey, as follows:

1. No
2. Probably not
3. No opinion
4. Probably yes
5. Yes

The answers can generally represent three alternatives, as follows: **Alternative 1** – the community analyzed will assume a generally indifferent attitude to the question on the purpose of such an investment, which means that the most frequently provided answers will be **no opinion**, and that there will be fewer **no** or **yes** answers. Of course, the number of **probably no** or **probably yes** answers will range somewhere in between the frequency of the **no opinion** answer and the **no** and **yes** answers.

Thus, the dominant answer of the **no opinion** type in the first alternative can be treated both as expressing the indifference of the given respondent to the question (they have more important matters than the problem presented on their mind) or it can simply be treated as a very honest position of the given respondent considering their lack of knowledge that makes it impossible for them to take a stand on the issue that is technical and economic in nature, apart from its environmental dimension.

Alternative 2 – the community analyzed is educated on the problem, and they have a general idea as to the complexity of environmental protection in relation to the technological and economic aspects connected with such a project, which means, to put it in a broader perspective, that they

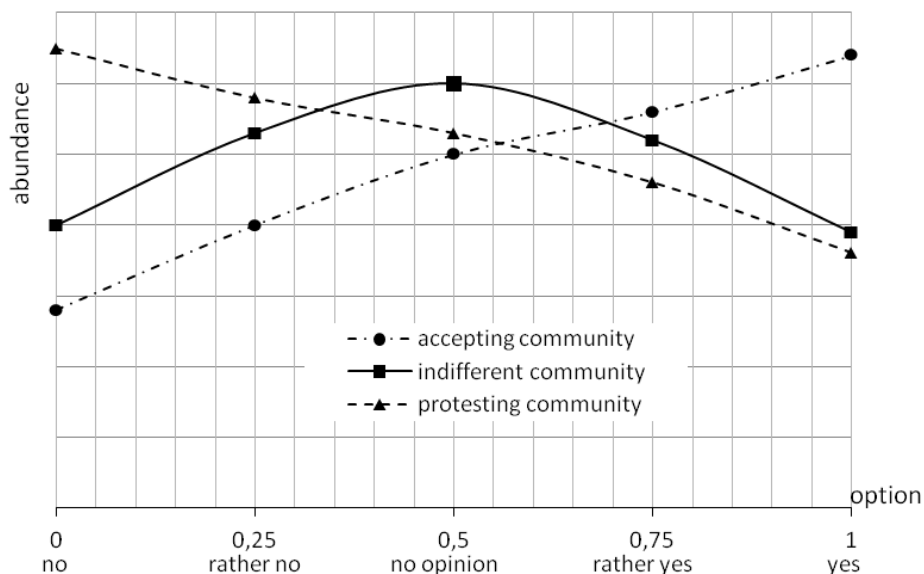
understand the specific need for the so-called sustainable development [7], and then the **yes** or, possibly, **probably yes** answer will be dominant in response to the precisely asked question from the survey.

Alternative 3 – the community analyzed does not fully understand the need for constructing a thermal waste treatment plant as the need to choose the lesser evil with the assumption that the technology used will be innovative and efficient. In this case, the dominant answer will be **no** or **probably not**. Of course, particular attention must be drawn to the fact that efficient and innovative technology, and not low-quality technology, is mentioned here with reference mainly to the flue gas cleaning, which means that it refers to the protection of the atmosphere.

The theoretical analysis with three alternatives presented above can be illustrated in the form of a simulation chart, with the so-called zero-one assumption (from zero to one hundred percent belief in the answer provided by the respondents themselves) as follows:

- the number of respondents that provide the **yes** answer, that is respondents fully, that is – one hundred percent, certain that an efficient and innovative thermal waste treatment plant should be constructed will be expressed as the value of 1,
- the number of respondents that provide the **probably yes** answer, that is seventy five percent certain that an efficient and innovative thermal waste treatment plant should be constructed will be expressed as the value of 0,75,
- the number of respondents that provide the **no opinion** answer, that is, the respondents that are fifty percent for the construction of the thermal waste treatment plant and fifty percent against the construction of the facility – will be expressed as the value of 0,5,
- the number of respondents that provide the **probably no** answer, that is respondents that are only twenty five percent for the construction of the thermal waste treatment plant and seventy five percent against its construction will be expressed as the value of 0,25,
- the number of respondents that are one hundred percent certain that the thermal waste treatment plant should not be constructed, which means that their belief that the facility should be constructed is zero, will be expressed as the value of 0.

The theoretical analysis described above is, thus, presented on a summary chart on figure 1.

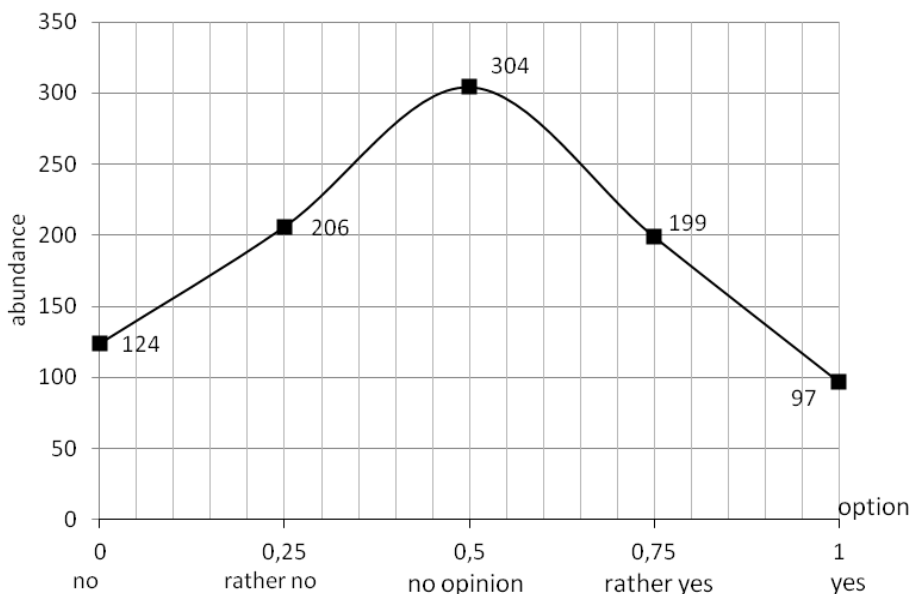


Rys. 1. Teoretyczne krzywe akceptacji – braku akceptacji badań ankietowanych
Fig. 1. Theoretical curves of acceptance – lack of acceptance of research respondents

The results of the authors' own survey can, thus, assume the form of one of the investigations mentioned above and presented on figure 1 – with which certain numerical amounts will be associated as a result of the survey research conducted.

5.3. The analysis of the results of the authors' own research

The results of the survey conducted among the citizens of Koszalin (930 people) are presented on the graph – figure 2. The curve presented on graph 2 shows that as many as 304 people in the sample including 930 people did not have any opinion on the question asked, which most probably means that they honestly answered that they do not have the knowledge necessary to formulate an opinion on the subject.



Rys. 2. Wyniki badań ankietowanych odwzorowane na wykresie akceptacji – braku akceptacji przeprowadzonych na próbie 930 mieszkańców Koszalina w sprawie budowy spalarni odpadów

Fig. 2. Results of respondents studies reproduced on the chart of acceptance – lack of acceptance conducted on a sample of 930 residents of Koszalin on the construction of a waste incineration plant

The second group of respondents included the so-called uncertain respondents, where the size of the group of uncertain respondents that provided the “probably not” answer including 206 people is similar to the size of the group of respondents that provided the “probably yes” answer which included 199 people; thus, the sizes of the groups of uncertain respondents range round the value that slightly exceeds 200 people.

The discussion and the interpretation of extrema answers, that is – the answers of the people that have a clear opinion on the subject, seem problematic. The number of “yes” answers is 97, which constitutes about 10.4 percent of respondents who are for the construction of an efficient and innovative thermal waste treatment plant. This is exactly the group of people who understand the need and the fact that it is the lesser evil at the current state of the art with respect to the techniques and technology and

environmental protection, considering the economic means available to the state, the voivodeship, and to the city of Koszalin in the present case.

However, 124 people, which constitutes about 13,3 percent of respondents, has a clearly negative attitude towards the construction of the thermal waste treatment plant for the city of Koszalin. Most probably, this groups includes people who yielded to the influence of the propaganda of environmental associations which are, as a rule, against this type of investments and it is probable that this group included people living in the Koszalin area (in this case – near Słowiańska street) whose living and housing conditions could be most strongly affected by the operation of the thermal waste treatment plant.

With reference to the expert opinions of professor Tadeusz Piecuch [...] mentioned above, it should be underlined here that the opinions were highly critical with respect to the technology that was proposed to be implemented for the city of Koszalin and indicated the technological mistakes and gaps as well as the corrections that should be made, the ways in which they should be implemented, and the level to which the cost of the investment should be raised to become realistic as well as the exploitation costs to be considered (including a considerable increase in the garbage collection fees for the citizens of Koszalin and providing the required amount of the so-called energy waste with the appropriate energy value at the specific price).

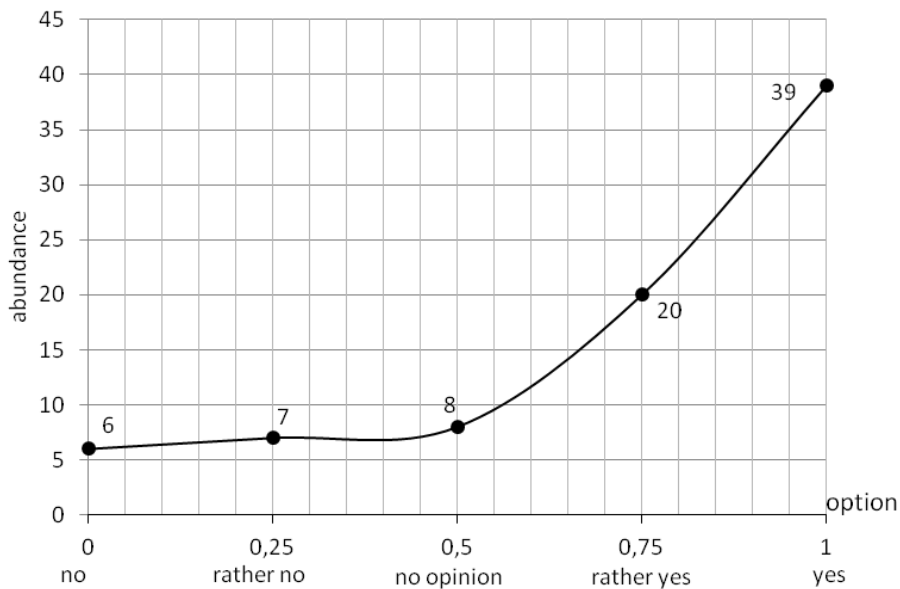
Interestingly different results were obtained from the survey run in the population of students of the environmental engineering faculty and of the environmental protection faculty of the Koszalin University of Technology.

The survey results are presented on the chart on figure 3.

On the basis of the survey conducted, it was found that as many as 39 students from the random set of 80 students asked to complete the survey, which constituted 48.7 percent of the sample, were for the construction of the thermal waste treatment plant, and 20 students from the group of uncertain respondents, which is 25 percent of the whole sample, answered “probably yes”, which means that they were 75 percent certain that the thermal waste treatment plant should be constructed.

On the other hand, only six students, which constitutes 7.5 percent of the group of students, were against the thermal waste treatment plant, and 7 students, which constitutes about 8.75 percent of the student

respondents asked to complete the survey, were rather against the construction of the thermal waste treatment plant.



Rys. 3. Wyniki badań ankietowanych odwzorowane na wykresie akceptacji – braku akceptacji przeprowadzonych na próbie 80 studentów kierunku Inżynierii Środowiska i Kierunku Ochrony Środowiska Politechniki Koszalińskiej w sprawie budowy spalarni odpadów

Fig. 3. Results of respondents studies reproduced on the chart of acceptance – lack of acceptance conducted on a sample of 80 students of Environmental Engineering and Environment Protection of Koszalin University of Technology on the construction of a waste incineration plant

It is possible that the group of students that answered “no” or “probably not” lives near the area where the thermal waste treatment plant investment is planned to be constructed or that they are members of environmental associations, etc. Still, the number of such students that expressed a negative attitude towards the thermal waste treatment plant investment is considerably lower than the number of students that answered “yes” or “probably yes”.

The number of students that had no opinion on the thermal waste treatment plant investment was 8, which constitutes 10.0 percent but is

also a low number which makes it possible to draw the general, although important, conclusion that a certain level of knowledge acquired over a few professional university courses in most cases provides the subjects with a certain understanding for such an investment despite the fact that they realize it is only a lesser evil against the alternative of swamping the city of Koszalin with waste, regardless of the European Union directives regarding waste management.

6. Conclusions

Two fundamental, although general, conclusions can be drawn from the theoretical analysis conducted in the present work:

1. Social pedagogy of environmental education should be distinguished as a specialization of social pedagogy which is a field of science originating from sociology.
2. Social environmental education should be built on the basis of fundamental assumptions of sustainable development.
3. The example of the need for the construction of a thermal waste treatment plant that requires social acceptance is a special determinant of conclusion number 1 and conclusion number 2 indicated above.

References

1. **Górska (Piecuch) I.:** *Odporność psychiczna, a choroby przewlekłe na tle nerwowym, uwarunkowane jakością środowiska życia człowieka*. Rocznik Ochrona Środowiska (Annual Set The Environment Protection), 11, 799–822 (2009).
2. **Konieczna-Wozniak. R.:** *Uniwersytet III Wieku przykładem samorządowych inicjatyw środowiska ludzi starszych*. Praca zbiorowa pod red. B. Kromolickiej pt. „Praca socjalna w organizacjach pozarządowych”, Wydawnictwo Edukacyjne AKAPIT. Toruń, 225–235 (2005).
3. **Kostecka J, Butt K.R.:** *Rozwój zrównoważony z perspektywy studenckich praktyk poświęconych zagadnieniom środowiskowym i społeczno-ekonomicznym*. Problemy Ekorozwoju. Vol. 5, No 2, 157–159 (2010).
4. **Mendel M.:** *Edukacja społeczna jako odmiana myślenia o wczesnej edukacji*. Olsztyn, 1999.
5. **Marynowicz-Hetka E.:** *Pedagogika Społeczna*. Tom 3., 66. Oficyna Naukowa, Warszawa 2000.
6. **Marynowicz-Hetka E.:** *Pedagogika Społeczna*. Tom 2., 34. Oficyna Naukowa, Warszawa 2000.

7. **Pawłowski A.:** *Rozwój zrównoważony – idea, filozofia, praktyka*. Monografie Komitetu Inżynierii Środowiska PAN. Vol. 51. Lublin 2008.
8. **Piontek B.:** *Teoretyczny model rozwoju zrównoważonego i trwałego*. Rocznik Ochrona Środowiska (Annual Set The Environment Protection), 2, 344–364 (2000).
9. **Piontek F.:** *Mechanizmy ekonomiczne stosowane w ochronie środowiska, a kategorie efektywności*. Problemy Ekologii Nr 6/1998.
10. **Piontek F, Piontek B.:** *Wzrost gospodarczy, a zrównoważony rozwój – środowisko, mierniki, efektywności i strategie wdrożenia*. Zeszyty Naukowe Wydziału Budownictwa i Inżynierii Środowiska Politechniki Koszalińskiej, Seria Inżynieria Środowiska, Nr 15, 557–574 (1999).
11. **Piecuch T.:** *Termiczna utylizacja odpadów – wdrażać czy nie?* Monografia. Polska Akademia Nauk. Oddział w Gdańsku. Komisja Ekosfery, 72. Szczecin, 1999.
12. **Piecuch T.:** *Termiczna utylizacja odpadów*. Rocznik Ochrona Środowiska (Annual Set The Environment Protection), 2, 11–38 (2000).
13. **Piecuch T, Dąbrowski J, Dąbrowski T.:** *Badania możliwości unieszkodliwiania i utylizacji odpadów poprodukcyjnych pochodzenia poliestrowego oaz projekt technologiczny koncepcyjny do wdrożenia opracowanej technologii przy założeniu maksymalnego oczyszczania spalin spełniającego warunki normatywne*. Praca zlecona, Nr BZ 501.01.16. Politechnika Koszalińska. Zleceniodawca Przedsiębiorstwo Wielobranżowe BJM Koszalin. Umowa z dnia 28.11.2007r.
14. **Piecuch T.:** *Wirtschaftliche Aspetke der Thermalen Abfallverwertun*. MONTAN UNIVERSITAT Leoben, 1–27 (2002).
15. **Piecuch T.:** *Praktische Anwendun der Pyrolyse bei der Verwertun von Abfallen Pyrolytische Verwertunseinrichtun Vom Typ WPS*. MONTAN UNIVERSITAT Leoben, 1–16 (2002).
16. **Piecuch T, Dąbrowski J, Dąbrowski T.:** *Laboratory Investigations on Possibility of Thermal Utilisation of Post-production Waste Polyester*. Rocznik Ochrona Środowiska (Annual Set The Environment Protection), 11, 87–102 (2009).
17. **Piecuch T.:** *Uwarunkowania techniczno- ekonomiczne, inwestycyjne i eksploatacyjne budowy Zakładu Termicznego Unieszkodliwiania Odpadów w ramach projektu „Utworzenie sprawnego kompleksowego systemu zarządzania Gospodarką odpadami dla Szczecińskiego Obszaru Metropolitalnego”*. Praca zlecona Nr BZ 0110 Politechnika Koszalińska. Zleceniodawca Urząd Miasta Szczecin. Umowa Nr 123/2008 zawarta w dniu 07.07.2008 r.

18. **Piecuch T.:** *Opinia w zakresie rozwiązań technologicznych do programu funkcjonalno-użytkowego SIWZ, pt: „Opracowanie wniosku o dofinansowanie z Funduszu Spójności przedsięwzięcia pn. System gospodarki odpadami komunalnymi i budowa zakładu termicznego przekształcania odpadów dla miast i gmin Pomorza Środkowego”*. Zlecenie z dnia 08.07.2010 r. Urzędu Miejskiego w Koszalinie.
19. **Piecuch T.:** *Opinia do opracowania studium wykonalności dla projektu, pt. „System gospodarki odpadami i budowa Zakładu Termicznego Przekształcania Odpadów dla miast i gmin Pomorza Środkowego”*. Praca zlecona, Nr 501.01.07/2009 Politechnika Koszalińska. Zlecenie z dnia 02.04.2010 r.
20. Praca zbiorowa autorstwa firm Socotec Polska, SP. zo.o oraz Przedsiębiorstwa Usługowego POŁUDNIE II Kraków, pt. *System gospodarki odpadami i budowa Zakładu Termicznego Przekształcania Odpadów dla miast i gmin Pomorza Środkowego*.
21. **Piecuch I., Piecuch T.:** *Nauczanie o środowisku – nigdy nie jest za wcześnie i nigdy nie jest za późno*. Rocznik Ochrona Środowiska (Annual Set The Environment Protection), 13, 711–722 (2011).
22. **Piecuch T.:** *Restrukturyzacja czy likwidacja polskiego hutnictwa żelaza – skutki gospodarcze i ekologiczne*. Kwartalnik PAN. Gospodarka Surowcami Mineralnymi. Zeszyt 4, 559–568 (1994).
23. **Primus A. i zespół:** *Wstępne studium wykonalności „System gospodarki odpadami oraz budowa Zakładu Termicznego Przekształcania Odpadów dla miast i gmin Pomorza Środkowego”*. Konsorcium Mepex Consult AS, Norway – przedstawiciel na Polskę Invest-Eko Katowice. Nr oprac. 80/JH/2009.
24. **Surdej A.:** *Partycypacja w Encyklopedii Społecznej*. Tom 3. Oficyna Naukowa, Warszawa, 2000.
25. **Yucheng Cao, Piecuch I.:** *The Role of the State in Achieving Sustainable Development and Human Capital Technology and Environmental Protection*. Rocznik Ochrona Środowiska (Annual Set The Environment Protection), 14, 314–328 (2012).

Edukacja ekologiczna a jej społeczne oddziaływanie

Streszczenie

Niniejsza publikacja omawia zagadnienie pedagogiki społecznej w odniesieniu do ochrony środowiska.

Badania własne odniesiono do przykładu, gdzie lokalna społeczność ma się odnieść do propozycji budowy spalarni odpadów (zwanego Zakładem Termicznego Unieszkodliwiania i Przekształcania Odpadów) w mieście Koszalinie.

Zakres badań obejmował dwie populacje, to jest:

- oddzielnie, ogólnie losowo mieszkańców Koszalina (930 osób),
- oddzielnie, ogólnie losowo studentów Politechniki Koszalińskiej kierunku inżynieria środowiska oraz kierunku ochrona środowiska (80 studentów).

Wyniki badań ankietowych przeprowadzonych wśród mieszkańców Koszalina (930 osób) przedstawiono na wykresie – rysunek 2. Ciekawe, bo inne zależności otrzymano z badań ankietowych populacji studentów Politechniki Koszalińskiej kierunku inżynierii środowiska i kierunku ochrony środowiska (rys. 3).

Z przeprowadzonej analizy teoretycznej w niniejszej pracy, nasuwają się trzy zasadnicze, chociaż ogólne wnioski:

1. Dziedzina nauk pedagogika społeczna, wywodząca się z socjologii powinna formalnie wyodrębnić specjalność: pedagogika społeczna edukacji ekologicznej.
2. Społeczna edukacja ekologiczna powinna być budowana w oparciu o bazowe założenia rozwoju zrównoważonego.
3. Przykład konieczności budowy inwestycji jaką jest spalarnia odpadów, wymagającej akceptacji społecznej jest szczególną determinantą przytoczonego powyżej wniosku numer 1 i wniosku numer 2.