The perceived problem solving ability and values of student nurses and midwives

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Problem solving is defined as a response given in an important and difficult situation, where critical thinking is required for a solution. Problem solving skills determine a person's ability to relate productively. This research was to determine the perceived problem solving ability and values of student nurses and midwives. It was planned as a descriptive research project in the University of Kocaeli's, Higher School of Health (Nursing and Midwifery School) in order to find out how students perceive their own problem solving skills, and to examine the relationship between problem solving skills and personal values.

The data were collected from 218 students by using a questionnaire to determine the characteristics of the students and the “Problem Solving Inventory” (developed by Heppner and Petersen [Journal of Counseling Psychology 29 (1) (1982) 66]) whose reliability and validity for our country had been tested by Şahin et al. (1993) The scores of the subjects were evaluated and analyzed.

Students who describe themselves in accordance with the values of truth (14.2%) and human dignity (19.3%) were also found to evaluate themselves successful in problem solving. Students who expressed that they act systematically (44.5%) and decisively (74.3%) in problem solving were also found to evaluate themselves as successful (47.8%) in problem solving.

The results of our study have shown that education in professional ethics should provide the development of professional values (especially of truth and human dignity). Concerning value-laden issues education should help students to reach the desired levels of problem solving skills by allowing them to acquire abilities such as self awareness and being inquisitive.

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Introduction

Education is an ongoing process, providing personal and professional stimulation to improve life. Since life is full of problems, the aim of education is to help individuals to acquire the knowledge, skills and attitudes necessary to overcome these problems.

Knowledge of one’s self is characterised by the ability to recognise the present from the information of the past and to project the future, thus establishing a continuity in one’s lifetime. People solve problems by knowing with the help of knowledge, by feeling with the help of values, and by doing with the help of skills. Problem solving is part of decision making. Part of this process is the development of personal characteristics such as courage, self-control, good decision making, and consideration for others (Ulupınar 1997; Altun 1998; Craven & Hirnle 2000).

A problem can be defined as a lack of balance between the actual and the desired outcomes that are of importance to people at a
specific time and necessitates an improvement or solution (Altun 1998). Life is full of problem situations, and the nursing profession is no exception (Becker & Fendler 1990). Problem solving is the basic skill of identifying a problem and taking steps to resolve it. Problem solving is therefore a systematic process that focuses on analysing a difficult situation and always includes a decision-making step (Becker & Fendler 1990; Altun 1998; Craven & Hirnle 2000). A systematic approach to problem solving can aid a person in knowing herself or himself better and in understanding her or his reactions to fears and problem situations (Becker & Fendler 1990). Problem solving involves obtaining information when there is a gap between what is occurring and what should be occurring. Effective problem solving also involves nurses evaluating a solution over time to ensure that it is still effective (Becker & Fendler 1990; Potter & Perry, 1997; Leahy & Kizilay 1998; Chitty 2001).

Approaches to problem solving vary depending on the nature of the problem (e.g. complex or simple); the problem solver’s experience, knowledge, and mental ability; and the alternative or option chosen to solve the problem (Craven & Hirnle 2000). Students’ actions may be affected by their state of growth and development, age, self-image, concept of nursing, value system, knowledge, interpersonal skill, performance ability, and the capacity to assist clients. They must be able to recognize these qualities in themselves and act accordingly (Stanley 1980).

The skill of problem solving is acquiring the knowledge that will lead one to a solution, and one’s ability to combine that knowledge in a ready-to-use format and utilise it to find a solution. This, in return, enables the individual to acquire the skills of critical thinking and problem solving. Scientific problem solving requires both logical thought and imagination. problem solving skills determine a person’s ability to relate happily and productively with others (Becker & Fendler 1990; Craven & Hirnle 2000).

All human interactions are value based (Hall 1996). Consciously or unconsciously, values have an impact on most decisions. Values reflect a person’s needs, responses to situations, and relationships to significant others, culture, religion, and society at large. Values are not stable but vary among individuals and change according to life experiences and level of maturity. Whenever there is human interaction, value conflicts are likely to occur. These conflicts can be resolved if persons are aware of their own values and the values of other (Heise 1993; Dossey et al. 1995; Potter & Perry 1995; Hall 1996; Ersoy & Altun 1998; Altun 2002). Human values influence both problem identification and problem solving (Craven & Hirnle 2000). At the same time, the values individuals possess serve as a source of positive self-respect and they help to increase the self-esteem of individual (Altun 2000).

Becoming a nurse or a midwife requires not only special knowledge and skills, but also adaptation to special behaviour. Students entering nursing should be aware of themselves in order to understand their feelings, attitudes and behaviour in their relationships. Students should receive instruction to help them to identify and clarify personal values and beliefs. Then, as nurses practice good nursing, they should adhere to those values appropriately (Potter & Perry 1995). Nursing is a helping profession (Heise 1993; Hall 1996; Craven & Hirnle 2000), and common features of a helping relationship are trust, empathy, caring, autonomy, and mutuality (Potter & Perry 1995). Students enter nursing school with certain values incorporated into their personal ethic. If the personal and professional values are known, then individuals start to develop a unique point of view and can reach several different conclusions in a given situation. If individuals become aware of the values they possess, decision making and problem solving become easier (Hall 1996).

Nurses demonstrate their professional and personal values in their attitudes and behaviours (Hall 1996; Potter & Perry, 1997; Craven & Hirnle 2000; Altun 2000). Attitudes can be seen in behaviours and opinions. Behaviours are observable actions. The nurse’s ultimate behaviours, however, demonstrate the values that have priority (Hall 1996; Craven & Hirnle 2000). It is known that nurses unable to determine and understand their own values

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have difficulty in perceiving their professional role as well (Hall 1996; Altun 2002). For this reason, students being educated to become health care professionals should also be aware of their own values and try to integrate them into the values of the profession while trying to adapt to their new role. Professional values are formed by reflecting on and expanding on personal values. Professional values are standards for action accepted by a practitioner and/or professional group. These values provide a framework for evaluating beliefs and attitudes that influence behavior (Heise 1993; Potter & Perry 1995; Dossey et al. 1995; Hall 1996; Ersoy & Altun 1998; Craven & Hirnle 2000; Altun 2000, 2002). The goals of nurse educators should be to teach students the appropriate professional values, that is, how to be consistently responsible in all facets of their professional life. Integrating of professional moral values should have an influence on the students’ personal moral integrity (Hoyer et al. 1991). Values in nursing are developed through classroom and clinical study (Hall 1996; Craven & Hirnle 2000).

Professional nursing values can be traced in the discipline’s history and traditions. In addition, the ANA (1987) and ICN (2000) codes for nurses are sets of standards based on universal moral principles or values. The American Association of Colleges of Nursing (AACN) identifies seven core values for nurses: altruism, freedom, human dignity, truth, equality, justice, aesthetics (Potter & Perry 1997; Altun 2000, 2002). These values are considered to be essential to the practice of professional nursing. These values are reflected in individual attitudes; they influence choices, behaviours and actions. Altruism includes personal qualities such as commitment, compassion, generosity, perseverance, benevolence, altruism and sympathy. Freedom involves personal qualities such as self-direction, self-discipline, independence and capacity to exercise choice. Human dignity relates to personal qualities such as kindness, respectfulness, honesty, trust, promise keeping and empathy. Truth has to do with personal qualities such as knowledge, realism, curiosity, rationality, inquisitiveness, responsibility, and self-confidence. Justice embodies personal qualities such as morality, courage, objectivity, upholding morality and legal principles. Equality encompasses personal qualities such as fairness, and having the same rights, privileges, or status. Aesthetic embraces personal qualities like imagination, appreciation, sensitivity and creativity (Potter & Perry 1997; Ersoy & Altun 1998; Altun 2000, 2002). Nursing students’ professional education should formalize and systematize these values, becoming the basis of their professional ethic. Then, as nurses practice good nursing, they should adhere to these values appropriately (Hall 1996).

Student life is filled with adjustments, problems, interactions, responsibility, communication, study, and involvement (Becker & Fendler 1990). They often feel helpless under the burden of their role responsibilities and have a pervasive sense that they can do nothing to change the state of existing problem (Becker & Fendler 1990). Role changes taking place at times when too many problems arise may especially affect the problem solving skills of individuals in a negative way. Nursing and midwifery students have to face some unique problems such as a hospital-medical centre environment, the personalities of various members of the medical team, and all the drama, trauma, joy, and sorrow found in a hospital, as well as having to cope with the usual problems a university student may encounter; therefore, a high degree of stress is involved in nursing education (Becker & Fendler 1990; Ulupınar 1997). An education involving such a degree of stress also affects the problem solving skills of the students (Becker & Fendler 1990; Ulupınar 1997). Both nurses and student nurses are expected to be able to choose the best solution for the problems encountered by patients in order to meet their need (Ulupınar 1997; Carpenito 1997; Altun 1998). However, in a research study among nurses, it was found that they were lacking in problem formulation skill (Altun 1998). In a research study among students, it was found that they were lacking in problem solving skills (Ulupınar 1997), but in today’s complex health care environment, nurses must be able to solve problems accurately, thoroughly, and quickly. These skills must begin at school and continue in health care (Ulupınar 1997; Carpenito 1997;
Altun 1998; Chitty, 2001). Therefore it is important to determine the problem solving abilities and factors and personal values that influence the skill of problem solving.

We planned this study to describe the problem solving abilities and values held by students. We planned to use the data to direct our role as educators in professional and ethical subjects accordingly.

**Method**

This descriptive and explanatory study was designed to determine the relationship among variables, aiming to describe the problem solving abilities and the values held by our students. The sample consisted of 218 students from the University of Kocaeli’s Nursing and Midwifery School (December 1999–January 2000) who agreed to participate in the research. The study protocol was approved by the school administration and permission was obtained. The students were informed about the purpose and content of the study; they were told that their participation was voluntary and their verbal consent was obtained. The sample comprised 90% of the total student population.

The data were collected with the help of a questionnaire developed in the light of data gained from the literature. The first part of the form contained questions about the students’ ages, number of siblings, the education levels of their parents, the place they lived in and the number of years of school education. The second part of the questionnaire contained the seven values and attitudes that were developed and determined to be essential by the AACN in professional nursing services (Potter & Perry 1997; Ersoy & Altun 1998; Altun 2000, 2002). The participants were asked to put the seven items in order of priority; depending on how well the given descriptions defined them (first choices referred to as ‘first line’, others as ‘second line’ throughout this text). Results of the questionnaire contained questions about the way participants behave when they face a problem, the way they evaluate themselves on their own problem solving skills and whether they act decisively when solving a problem. The fourth part of the form was devoted to the Problem Solving Inventory developed by Heppner and Peterson (1982). The inventory’s reliability and validity for our country had been tested by Şahin et al. (1997). According to that study (1997), an original English language questionnaire developed by Heppner and Peterson was first translated into Turkish by two Turkish authors; a native English speaker living in Turkey then translated it back into English. The back-translated English questionnaire was reviewed by one of the original authors and evaluated. According to suggestions made by the original author, the Turkish questionnaire was then modified and finalised. The reliability and validity tests’ statistical results indicated that the measurement model was highly valid. The Problem Solving Inventory aims to assess the self-confidence and feeling of self-control of the individual in problem solving, as well as the way in which the individual approaches problem solving. The inventory can be used to determine how an individual approaches or copes with a problem and consists of 35 items that are assessed on a Likert scale of 1-6 by the participant. “1” denotes “totally agree” whereas “6” denotes “totally disagree”. The items contain positive and negative judgements about problem solving, and the negative judgements are later reversed while the scores are being evaluated. Low scores indicate effectiveness as well as having the behaviour and attitudes for successful problem solving. High scores indicate an inability to reach a successful solution when faced with a problem.

The data were evaluated and analyzed with descriptive and inferential statistics as percentage, average and analysis of variance (Polit & Hungler 1989).

**Results**

All 218 students completed the questionnaire. Having a mean age of 20.63, 155 of the respondents were student nurses and 63 were student midwives.

A third (65) of all participants were 1st year students, 56 of them were 2nd year students, 66 were 3rd year and 31 were 4th year students. Almost all (213) of the participants were single. A third (63) had two siblings, 54 had three, and 46 had one sister or brother. When the educational status of participants’ mothers
was examined, most of them were found to be literate or first school graduates. Only 28 of the mothers did not read or write, and almost half of the participants’ fathers were either literate or primary school graduates. Sixty-seven of the fathers were elementary/high school graduates and 26 had higher school or university education.

Problem solving

It was found that the average score of the students’ problem solving was 83.54 ± 19.14. When the average scores of the students were compared, it was seen that the students in midwifery found themselves most successful in regard to problem solving, their average score being 81.96 ± 19.70. On the other hand, students in the nursing department considered themselves to be less successful in problem solving; their average scores were 84.74 ± 19.00. When these results are compared, no statistically significant relations are seen.

When the average scores and number of years of education were considered, 1st year students were found to have an average score of 83.67 ± 19.05 and 2nd year students had an average of 81.42 ± 17.61. 3rd year and 4th year students were found to have average scores of 83.80 ± 20.28 and 86.32 ± 20.02, respectively. When these results are compared, no statistically significant relations are seen.

When the average scores were evaluated with regard to the place lived in, it was observed that students living with their friends (32%), students living with their family (30.3%) and students living in a flat/house provided to employees (10.6%) found themselves to be more successful in problem solving, their average scores being 82.90 ± 17.08, 82.30 ± 20.65 and 82.08 ± 20.92, respectively. Students living alone (5.0%), students staying in a dormitory (13.8%) and students staying with a relative (8.3%) found themselves less successful in problem solving; their average scores were 84.81 ± 16.96, 85.20 ± 19.25 and 88.88 ± 21.22, respectively.

When the relation concerning the way students behave when they face a problem and their problem solving skills was examined, students who expressed that they solve problems systematically were found to have the highest problem solving scores, averaging 75.63 ± 16.58. Almost half of all participants were in this group (44.5%). Participants who choose to get away from problems, let the time handle the situation or do the first thing that comes to their minds, considered themselves less successful, with average scores of 85.00 ± 26.98, 89.47 ± 17.48, and 91.23 ± 19.93, respectively (Table 1). The relation between the way participants behave when facing a problem and their average problem solving scores was found to be statistically significant (F: 11, 61, p < 0.001) (Table 1).

<table>
<thead>
<tr>
<th>Student behaviour</th>
<th>No. (%)</th>
<th>Mean ± SD</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Behaviour when facing a problem</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I let the time handle it</td>
<td>77 (33.0)</td>
<td>89.47 ± 17.48</td>
<td>F: 11.61, p &lt; 0.001</td>
</tr>
<tr>
<td>2. I do the first thing that comes to my mind</td>
<td>43 (19.7)</td>
<td>91.23 ± 19.93</td>
<td></td>
</tr>
<tr>
<td>3. I solve the problem systematically</td>
<td>97 (44.5)</td>
<td>75.63 ± 16.58</td>
<td></td>
</tr>
<tr>
<td>4. I get away from the problem</td>
<td>6 (2.8)</td>
<td>85.00 ± 26.98</td>
<td></td>
</tr>
<tr>
<td><strong>Skill of problem solving</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I am unsuccessful</td>
<td>9 (4.1)</td>
<td>101.00 ± 14.21</td>
<td>F: 10.43, p &lt; 0.001</td>
</tr>
<tr>
<td>2. I am partially successful</td>
<td>101 (46.3)</td>
<td>88.00 ± 18.93</td>
<td></td>
</tr>
<tr>
<td>3. I am successful</td>
<td>104 (47.8)</td>
<td>77.98 ± 17.47</td>
<td></td>
</tr>
<tr>
<td>4. I am very successful</td>
<td>4 (1.8)</td>
<td>63.00 ± 12.98</td>
<td></td>
</tr>
<tr>
<td><strong>Behaviour to act decisively in problem solving</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. I act decisively</td>
<td>162 (74.3)</td>
<td>79.64 ± 18.31</td>
<td>F: 19.88, p &lt; 0.001</td>
</tr>
<tr>
<td>2. I do not act decisively</td>
<td>56 (15.7)</td>
<td>94.80 ± 17.05</td>
<td></td>
</tr>
</tbody>
</table>
As shown in Table 1, almost half of the participants (47.8%) were successful in problem solving with an average score of 77.98 ± 17.47. Those who were very successful had an average score of 63.00 ± 12.98, whereas those who were partially successful and partially unsuccessful had average problem solving scores of 88.00 ± 18.93 and 101.00 ± 14.21, respectively. A highly significant relation concerning the skill of problem solving and the way students perceive themselves in problem solving was observed when a statistical analysis was performed. ($F$: 10.43, $p < 0.001$) (Table 1).

Participants acting decisively in problem solving were found to consider themselves successful in problem solving, with an average problem solving score of 79.64 ± 18.31. Those not acting decisively were also unsuccessful in problem solving, and they had an average problem solving score of 94.80 ± 17.05. The statistical assessment revealed a significant relation ($F$: 19.88, $p < 0.001$) (Table 1).

### Professional values

When the attitudes that students consider to be first line and their distribution over the professional values were examined, it was seen that students primarily (26.1%) view themselves as committed, compassionate, generous, persevering, benevolent, altruistic, and sympathetic, thus demonstrating (the value of altruism). Attitudes like being kind empathic, respectful, honest, trusting, and keeping promises (the value of human dignity) were the second most preferred qualities in the first line (19.3%). Morality, courage, objectivity, upholding morality and legal principles (the value of justice) were stated in the lowest level (5.5%) (Table 2).

The distribution of the attitudes students consider to be in the first line and the professional values with regard to the average problem solving scores shows participants expressing the value of truth and qualities like being knowledgeable, realistic, curious, rational, inquisitive, responsible and self-confident (14.2%). These students were found to evaluate themselves as most successful in problem solving, with an average score of 75.03 ± 23.96. When the attitudes students consider to be in the second line for describing themselves were examined, those who define themselves in accordance with the value of truth were found to have average score of 74.76 ± 15.82.

It was seen that participants who were in the second most successful group with an average score of 80.83 ± 15.87 described themselves as having the attitudes encompassed by the value of human dignity. On the other hand, participants who consider definitions like imagination, appreciation, sensitivity,
creativity (the value of aesthetics) to be more descriptive of themselves in the first line (10.6%), were found to have an average score of 91.00 ± 15.22 and they considered themselves to be less successful in problem solving (Table 2).

Discussion

Ninety percent (218) of all students at the University of Kocaeli’s undergraduate Nursing and Midwifery School participated in this research that aimed to determine the problem solving skills of the students and the relation between their values held and problem solving skills.

It was found that the total average score of the students’ problem solving was 83.54 ± 19.14. The average scores showed a similarity with results obtained in a study performed by Taylan 1990 among the students of educational sciences faculties, using the same inventory. However, the way students participating in our study perceived themselves in problem solving was better than the way participants perceived themselves in a study performed by Ulupınar (1997) among the students of the Higher School of Nursing, also using same inventory. Ulupınar(1997)’s study showed the problem solving skills to increase with the increasing number of years of education, and our study did not show this. Our students had similar average problem solving scores to the first year students of the Higher School of Nursing, where Sabuncu et al. (2000) performed their study during the same period. In Ulupınar’ s research (1997), students living with their relatives were also found to have low problem solving score averages, but the students living alone were found to have high average scores in the same study.

Self-awareness is important in any interaction. Self-awareness is the process of understanding one’s own beliefs, thoughts, motivations, biases, and limitations and recognising how they affect others. Self-awareness allows us to serve others with compassion, respect and understanding. The development of self-awareness requires a willingness to be introspective and to examine personal beliefs, attitudes and motivations. The development of self-awareness will enhance the nurses’ objectivity (Heise 1993; Carpenito 1997). Students finding themselves to be successful in problem solving (constituting almost half the number of all participants), and students finding themselves very successful in problem solving, were also found to evaluate themselves as successful in problem solving. Those who considered themselves to be partially successful and partially unsuccessful in problem solving were also found to evaluate themselves less successfully in problem solving. Statistical analysis revealed a significant relation between the average problem solving scores and how successful students consider themselves to be in problem solving (F: 10.43, p < 0.001) (Table 1). This result is important, as it shows that students were able to evaluate themselves objectively. We identified that those who were successful from a student’s perspective, were the students who were competent, had a positive personality, promoted feelings of self-acceptance and were concerned with personal and professional growth. It was observed that our students perceive themselves as quite successful in problem solving at the time the study was performed.

When the distribution of the problem solving scores and the way students behave on encountering a problem were examined, students who stated that they would solve the problem systematically were found also to consider themselves most successful in problem solving. The number of students in this group equals almost half the number of all participants. Other students who stated that they would either avoid the problem or let the time handle it or do the first thing that comes to their minds were also found to consider themselves less successful in problem solving. A statistically significant relationship between the way participants behaved on encountering a problem and their average problem solving scores was observed (F: 11, 61, p < 0.001) (Table 1). It was seen that solving a problem systematically increases the skill in problem solving. A systematic process that focuses on analysing a difficult situation always includes a decision-making step (Becker & Fendler 1990; Ulupınar 1997; Altun 1998; Craven & Hirnle 2000). Those choosing to do the first thing that comes to their mind, and those who avoid the
problem or those who let the time handle the situation – since they are unable to find a solution – were seen to have low problem solving score averages. Participants who stated that they solve the problem systematically had high problem solving score averages in Ulupınar’s study (Ulupınar 1997) as well, so our results can be considered as showing similarity. The skill of systematic and critical thinking helps individuals to acquire a creative, questioning, and investigating personality. Individuals acquiring such properties gain self-confidence in areas such as controlling their own life, taking responsibility, thinking critically and solving their own problems (Becker & Fendler 1990; Ulupınar 1997; Altun 1998; Craven & Hirnle 2000).

Participants acting decisively in problem solving were found also to consider themselves successful in problem solving, whereas those not acting decisively were found to consider themselves unsuccessful. This was found to be statistically highly significant ($F: 19.88, p < 001$) (Table 1). This finding is important, as it shows that acting decisively when faced with a problem increases the skill of problem solving. Problem solving is part of decision making. Decision-making is a complex, cognitive process often defined as choosing a particular course of action (Becker & Fendler 1990; Ulupınar 1997; Altun 1998; Craven & Hirnle 2000).

When the attitudes that students consider to be first line and their distribution over the professional values was examined, it was seen that students primarily view themselves as altruistic, benevolent, compassionate (the value of altruism); attitudes like being respectful to human dignity, trustworthiness, and promise-keeping (the value of human dignity) were the second most preferred qualities in the first line. Morality, courage, objectivity, upholding morality and legal principles (the value of justice) was stated in the lowest level (5.5%) (Table 2).

When the attitudes considered to be first and second line by the participants and the distribution of the average problem solving scores were examined, it was observed that students describing themselves in accordance with the value of truth considered themselves to be successful in problem solving (Table 2). This latter finding – the fact that participants considering the value of truth as second line also have high averages – verifies the conclusion we drew from our first finding. The value of truth was characterised by nurses in such qualities as accountability, rationality and inquisitiveness. Persons who give priority to this value assess themselves and their performance positively. A similar study (Altun 2000) found that nurses who rank truth highly also value self-esteem highly. In another study (Altun 2002), the nurses with low levels of emotional exhaustion and high feelings of personal achievement had truth as their priority value. The value of truth that increases the average problem solving scores of the students is expressed in terms of behaviour such as critical thinking, willingness to take responsibility, being reliable, honest, curious and able to rationalise. Kaya’s study (Kay 1998), where inquisitive and risk-taking students were shown to have high scores in critical thinking skills also shows similarity with our results. Moreover, this finding is also compatible with the results obtained from Ulupınar’s study (Ulupınar 1997) where self-assessment scores in problem solving skills of the graduates in a PhD programme were obtained. Individual learning can be said to increase in a PhD programme where the student is directed to research. Since the process of research can be used as a synonym for problem solving, the effect of the value of truth seems compatible with our results.

Participants considering themselves in the second most successful group in problem solving were found to describe themselves as holding the value of human dignity in the first place. Students expressing truth and human dignity as the first line were also found to have high self-esteem in a similar study performed with the same student (Altun 2000). Another study conducted by the present author (Altun 2002) has shown that nurses demonstrating a high human dignity value also have low levels of emotional exhaustion and high feelings of personal achievement. In that study, the human dignity value, characterised by consideration, uniqueness of the individual, empathy, humane treatment, kindness, respect and trust, was noted as the second priority value (Craven & Hirnle 2000; Altun 2002).
Values based on human dignity include promoting self determination, doing good, avoiding harm, telling the truth, respecting privileged information, keeping promises, and treating people fairly (Craven & Hirnle 2000).

On the other hand, participants who described themselves as holding the value of aesthetic were found to consider themselves less successful in problem solving. This finding did not seem consistent with the content of the value of aesthetics to us, for students possessing such a value are expected to have imagination, creativity and sensitivity which might improve the skill of problem solving. For this reason, this finding may be implying that students defining themselves in accordance with the value of aesthetics need to become more aware of that particular value (Table 2).

**Conclusion**

The research was performed to determine the relation between the skill of problem solving, the factors that affect them, and the professional values of the students in the Kocaeli undergraduate Nursing and Midwifery School.

Participants consider themselves quite successful in perceived problem solving in this research. Students who express that they solve a problem systematically, and those who act decisively in problem solving were also found to evaluate themselves as successful in problem solving. Among the students those who describe themselves as knowledgeable, realistic, curious, rational, inquisitive, responsible and self-confident in the first line (the value of truth), and those who describe themselves as kind, respectful, honest, trusting, keeping promises, empathic in the first line (the value of human dignity) were found to evaluate themselves as successful in problem solving.

Based on these finding, several recommendations can be made.

- The values of truth and human dignity should be promoted to help students to acquire problem solving skills.
- Open discussions between students and instructors concerning value-laden issues may help students to process information about values. In addition, the development of self-awareness will enhance the students’ objectivity and problem solving capacity.
- A systematic problem solving process may be taught in its own right in lecture sessions.

**References**


Altun I 2000 17 Ağustos 1999 Marmara depremi sonrası Kocaeli Sağlık Yüksekokulu öğrencilerinin benlik saygıları, etkileyen faktörler ve kişisel değerleri ile ilişkisi (After the earthquake of Marmara on 17th August 1999; the relations between self-esteem and personal values of the students in Kocaeli undergraduate nursing and midwifery school, and the factors that affect them). Tip Etüdi Dergisi 8: 2; 94–100

Altun I 2002 Burnout and nurses’ personal and professional values. Nursing Ethics 9(3): 269–278

American Nurses’ Association 1987 Code for Nurses with Interpretive Statement. ANA, Washington, DC

Becker BG, Fendler DT 1990 Vocational and personal adjustment in practical nursing, 6th edn. The C.V. Mosby Co., St. Louis

Carpenito LJ 1997 Nursing diagnosis Application to Clinical Practice, 6th edn. J.B. Lippincott, Philadelphia


Hall JK 1996 Nursing Ethics And Law. W.B. Saunders Co., Philadelphia


Kaya H 1998 Üniversite öğrencilerinde eleştirel akıl yürütme güçü (Critical thinking power in students at University). In: İnanç N (ed). VI Ulusal Hemsirelik
Perceived problem solving ability and values


