

Full Length Research Paper

Learners of medical English as problem posers/solvers tackling real-life concerns

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To come to a critical understanding of personal experiences and existing knowledge, and to actively engage in knowledge production, an education based on problem posing and problem solving activities can open up the space to focus on people's real life concerns and come to local solutions for personal problems. The present study is an account of how centralizing themes and concerns from learners' real life in an educational enterprise and empowering the learners to be problem posers/solvers can create pedagogy of engagement and local knowledge production. In this study a group of 24 third-semester Iranian students of medicine decided to work on a course of English for specific purposes in an alternative way as an instance of challenging the existing taken-for-granted ways of dealing with course requirements. They considered some of their real-life medical concerns and developed a process of problem posing/solving in using various available resources to conduct a search and a research and produce knowledge. They also took part in a public medical show at the end of the semester to exchange their problem posing/solving experiences and the produced knowledge with other students in the university as another step to represent their one-semester attempt to approach a number of medical concerns and look at what they have done from de-emphasized unspoken hidden perspectives.

Key words: Language education, Medical English, problem posing, pedagogy of engagement, English in Iran.

INTRODUCTION

The idea of problem posing or using the knowledge the participants produce through constructing questions originally goes back to the works of John Dewey and Jean Piaget with their emphasis on 'active, inquiry education' in which the participants step by step construct meaning. They conducted student-centered curricula aimed at knowledge production rather than memorizing facts. Many researchers agreed with this dynamic approach, such as Freire, with his view of 'problem posing dialogue' (Shor, 1992).

A problem posing education is a democratic practice beginning with the participants' (including the students and the teachers) experiences and daily life themes and words that are pertained to their culture as the official curriculum concern and then develops critical thinking and action around. In this liberatory pedagogy, empty

minds are not filled with established knowledge rather; knowledge is posed as a problem for mutual inquiry. In Kincheloe's (2004: 3, 83) words, it is "... a form of educational adventurism that takes us where nobody's gone before" and learning in this regard is viewed as "... something other than meeting standards and scoring high on tests" but rather as "a process of coming to meaning" (Simon, 1992: 94).

Taking a participatory approach towards learning and enhancing one's own and one another's learning opportunities in and outside the classroom and encouraging a whole class dialogue over the themes and concerns under discussion, a problem posing pedagogy provides the scene to hear everybody's voice and consider everybody's life and wisdom. In this way the participants better understand the meaning and purpose of intellectual work and enjoy an internal motivation towards learning and finding meaning in what they are doing. Being so, they understand "... that others can have different desires and intentions, that there are

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different ways of thinking” (Graves, 1999: 57). Furthermore, since “learners have the ability to pose their own problems and to struggle to achieve their own solutions” (Shor and Pari, 1999: 142 to 143) and “... academic learning becomes a secondary component of school life [and] its alienating properties [will] be suppressed, thus making genuine education possible” (Sidirkin, 2004: 262). To develop an educational experience that is meaning-based and relevant to learner’s lives (Shor and Pari, 1999) and “to extend the range of possibilities of representation that are open to these same students for representing their meaning” (Norton and Tohey, 2004: 113) a problem posing pedagogical experience can open the space and provide the opportunity to learn through posing problem and through ‘critical literacy’” (Shor and Pari, 1999). In this practice of critical literacy there is a creative and critical use of language “... in a cooperative setting in which student and community experiences are validated” (Peirce, 1989: 417) and participants touch in action that knowledge is not ‘received’ or even ‘discovered’ rather human beings ‘create’ their knowledge (Perkinson, 1993).

RESEARCH CONTEXT

In the present study, a group of 24 female students of Medicine for their ESP II (English for Specific Purposes II) course selected and decided to work on their real life medical concerns through conducting a search and research over using any possible means of gaining knowledge and awareness. The students were second year students of medicine in a prestigious medical university in the Iranian capital, Tehran, and the all female group was focused because one of the researchers was teaching that particular class and being female was not a special focus point. They took an alternative approach towards a course book and took part in a public medical show as instances of robbing against the grain and learning and producing knowledge through the processes of problem posing and solving. They came to understand in practice and challenged the idea that particular practices are natural and could have been constructed in no other way. Most of their class time is devoted to talking, discussing, analyzing, commenting on, and re-thinking their concerns and at the end of the semester they identify a possible treatment or a way to deal with the problem. They go through three types of experiences of problem posing/solving during the course.

Real-life medical concerns

Each student selected a personal, a family related, or a society based medical issue; conducted a research over it, shares her findings with the community, and seeks suggestions or comments both in terms of medical

research and English language writing techniques. What they did was based on the idea that ‘every person and every community was made of stories, experiences, memories, dreams, and of what embodies hope and captures the imagination in terms of inspiration and dignity’ (Fasheh, 2006). Every community member identifies, tells and narrates three real life medical stories affirming the idea that people are full of precious stories and experiences to learn from. They identified problems such as migraine headache, myopia, sneezing in the sun, dyspepsia, photophobia, elevator phobia, several instances of headache, acne, brown spots on the skin, fatigue, excessive sleepiness, friedrich ataxia, forgetfulness and alzheimer, skin cancer, kidney transplant, myopathy, absenceepilepsy, and lisp.

A course book in an alternative way

As research interviews revealed, nearly all of the 24 female students of medicine taking part in this study disliked working on the text book considered by the authorities for their ESP II course because of its being “old”, artificially dense with technical words, and irrelevant to learning community members personal needs and real life concerns. The course instructor suggested that they use the book as only one source to conduct a search/research journey to know more about the subject they can select by agreement. The learners selected one of the topics raised in the course book, after that they were free to use any medical research-based websites, articles, books, medical films and seminars, or they could interview with real patients and doctors around them or in hospitals, and apply any other means to gain understanding about the topic in question, and then share their understanding and raise some research questions for the class to conduct a research and research over.

Public medical show

Another learning opportunity provided for the ESP II learning community in the present study that extended learning ‘beyond schooling’ (Simon, 1992) with an attempt to understand students’ lives (Shor and Pari, 1999) is a public session held inside the university in which the learning community members prepared and presented a poster on one of their concerns. In this session each student played the role of the specialist doctor of the concern she had chosen and tried to answer the questions of those referred to her as patient. Patients could be their classmates, medical students from other classes, their professors or any other person who passed by. That was an opportunity to practice making a relationship with a patient and examine the kind of language they used. An opportunity ‘to affirm that people are the real solution, not the obstacle and not ignorant’

(Fasheh, 2000b).

ANALYSIS AND DISCUSSION

Real-life medical concerns as themes for a problem posing/solving pedagogy

After selecting their medical concern in each session, some of the students talked about their concerns, what and how they searched about, what they found, what hypotheses formed in their mind and how they tested them and replaced some. Then, the community members asked questions, discussed the case and suggested actions to be taken. For example this is part of what Lida did for her personal concern, Photophobia, and other community members' dialogued over it:

Lida: My problem is a kind of sensitivity to light whether natural, sunlight, or artificial, lamps, computer screen, etc., called photophobia. My father has the same problem but my level of sensitivity is higher so that my father has problem only with natural light but mine is both natural and artificial light. In this problem eye muscles are always in tension, they are always tired so there is a persistent fatigueness of eyes...

Pari: Why are the eye muscles always in tension?

Lida: Because the eye lens can't adjust... (Audi- tape of classroom events). To construct knowledge and language both actively and critically, learners must identify real problems and recognize the significance of these problems in their own lives and lives of other people around them. This critical consciousness can bring efforts to develop one's own style in dealing with the problems and search for some kind of self-directed solutions instead of just following or copying others in order to improve the quality of human life as a possible result. It can be done through engaging in authentic conversation about native real issues and concerns in each person's life. This is a manifestation of the idea of "learning by doing; that is, by being embedded in life. In this approach, learning is almost synonymous to living" (Fasheh, 2000a) towards which there is an accepting approach on behalf of the learning/research community in this study.

After writing the first drafts of their articles on their own real medical concerns, learning/research community members (in pairs, small groups, or whole class) read and critically discussed the content and form of their articles. (Teacher can often contribute to this endeavor a better understanding of how to read and listen critically to language, focus on authentic dialogue, and comment on the writings). As an example, here are some parts of Tina's first draft:

Tina: Sun sneezing or photic sneezing is a genetic condition (also called the achoo syndrome) which the signals from your eye to your brain are somehow also

received by the part of your brain which deals with the sneeze reflex, this means that when your brain is told to contract your iris- in response to increased light- it also thinks that it is being told to produce a sneeze.

Rosa: So it is a genetic condition not disease, disorder, or anything else.

Bita: It seems an "in" is needed before "which" in the second line and it is better to replace the period after "reflex" in the third line with a full stop and capitalize "this" as the result.

Providing the students with some tools for doing internet search in addition to google advanced the teacher introduces PubMed and Cochrane Library as good places to search medical issues. He presents the class with some pages on BMJ (British Medical Journal) in section under the title of Evidence-based Medicine that provides tips and tactics on how to search. Afterwards the students tried at first MeSH (medical subject headings) to understand what to search for, for example, one of the students' concern was "excessive sleepiness" and she explained:

Bahar: At first I wanted to know what to search about. So I went to Mesh and at that box we have there to search I wrote "excessive sleepiness" and then 100 (interrupted by the teacher).

Teacher: Look! At the beginning I don't know what to search about but I know this is my concern. Then I go to mesh. Yes.

Bahar: When I wrote that then 100 items came. When I started to- because they are so brief and summary, it helped me to find the right ones. I started to read them one by one, and then I tried to find some words, some statements that I can reject some of them from my search. They are so obvious.

Teacher: She says some of them might be rejected.

Bahar: ...I thought there were some items that might be my problem or might not be. I tried to find some of them that I thought to be more relevant to my problem and started to search. Now I started to search about just 4 of them and was assured that 3 that seemed to be my problem were not my problem. So I used the only one most related to my concern and I went to google and there I wrote that specific name. There were much information and I'm sure if I had enough time to read all of them, I would receive more information...

Teacher: Thank you. Ok, and you need to go and search about your clinical searches too, Mesh and Clinical. Have in mind then you will see the connections. ... One of them was in Mesh; the other one was seeing clinical cases. Go to clinical sites and in maybe many British hospitals, in US, in Europe, on those green papers you have the addresses of the sites. In the sites there are two sections: one is "clinical" the other "diagnostic", check both of them, for example, one of them is "Carline Library". It's very probable that find your own disease in one of those patients', do you understand? It's highly probable...

As a pedagogy of 'autonomy' and 'engagement' that

attracts learners' interest "by giving them, to the extent feasible, a meaningful role in pedagogic decision making" (Kumaravadivelu, 2006: 176), students exchange their searching experiences and help each other to overcome any ambiguity or confusion in this regard. These dialogues while not removing the teacher's responsibility as a learning facilitator, pushes the students to have an active role, enhancing not only their current learning but also their lives beyond the classroom. What happens in this ESP learning environment is a manifestation of the idea that "... the classroom should [not] prepare students for the real world, rather, the classroom must be the real world in which students and teachers critically analyze real problems and take action to solve them" (Shor and Pari, 1999: 147).

After completing each project on medical concerns, the students should exchange their papers to be analyzed and suggested by their learning community members. Then they should give an oral report of the process to the class. Sometimes the teacher asks the students to be divided into small circles of two, three or four people in order to talk about their concerns and the research they are doing one by one while the other one(s) is/are taking notes to ask questions or offer some suggestions to better clarify the situation or share knowledge and ignorance, too. This is some parts of Nahid's analysis of Mina's personal concern and comparing Mina's writing with her own:

Nahid: First I saw the front page it was really charming. It was very nice and attracted me a lot actually I saw a frightened person in an elevator, I get more curious to read the whole text and actually the title was Phobia... When I started reading I found out she writes, actually all the parts of her concern was detailed, explained in detail and I could find her context because all the steps that she get this concern was explained. At the beginning about her first experience in elevator that was called Phobia she said what Phobia is, how she is afraid of getting on elevator, ...and after that she has an internet search and highlighted some parts to show the importance ... but in my research what I was actually doing was I would add some pictures but in this one there was no picture.

Students' written texts allowed follow-up discussions in the class that lead to students is dialogic negotiators. This makes a balance between students' own perceptions of their progress and the teacher's expectations for particular assignments. These self and peer evaluation and analysis help to strengthen students' self-confidence since they enjoy their successes and experience a sense of control over their learning process. This process of negotiation and self-reflection establishes mutual trust between students and the teacher to promote collaboration and group discussions that make up the main part of each session's literacy events.

To encourage learners to talk and write about their

personal or family concerns the teacher, the course instructor, shares some of the stories of his own medical issues and those of his daughter or mother with the learners. Sometimes the learners have some related experiences and share with him their understandings, analyses, search experiences, and actions taken. The teacher also brings the learning community several instances of patient or her family members' engagement in the process of diagnosis and treatment on medical journals that show how people's involvement and sharing the responsibility and authority of decision making can improve the situation in several cases. These all encourage the community members to trust and open up their pains, concerns, and their language, too to be discussed, analyzed, commented, and helped to improve. They are gradually noticing that when learning is happening, we do not notice it and we do not use 'learning' to refer to it. And when learning is not happening, we use 'learning' to refer to it! If, for example, a child is playing soccer – through which s/he learns a lot – we say s/he is playing soccer, not learning; similarly, if a child is swimming or riding a bicycle or cooking or planting. It is ironic that we use 'learning' only when there is no real learning going on, such as when children are at school! Here is Diba's family concern:

Diba: My grandmother whom I love very much is involved with this problem and it made the disease bigger in my mind. Reading and analyzing what she has found on the net she always locates her grandmother and tries to examine her state. She pays attention to the specific case of her grandmother and finally she declares her diagnosis and suggests some caring advice.

Diba: I myself found another risk factor which was effective in my grandmother's disease. She showed AD little by little after my grandfather's death. When my grandfather was alive my grandma did not have any problem with her memory. So I think sudden emotional shock like the death of family members can be a starting point for AD. So in my grandmother's case, age and emotional shock are the risk factors.

My diagnosis: I think that my grandmother is in the fifth (moderate) stage. Of course the stages can overlap each other, but my grandmother has almost all the symptoms of the fifth stage. And I hope that her disease won't improve more. Unfortunately no treatment can stop AD but we should prevent some symptoms from becoming worse.

One of the other learning activities the learners are engaged in during the semester is reading Interactive Case Report in Practice section of the British Medical Journal and then writing their own society medical concern in the way they learn there: case presentation and the followed questions, case progression and the followed questions, case outcome, discussion, comments, doctor's concern, and patient's concern.

Exchanging the case reports and searching for each other's question strengthened their sense of community and increased their learning opportunities of real medical cases. Writing commentary on each other's case report is another site of reading and considering each other's writings critically and help one another to develop a better understanding of medical writing.

Conducting these research projects is a matter of finding topics for discussion that reflects the immediate reality of the challenges the community members' lives and near future profession are concerned with: doing something for the medical problems of themselves, those of their family members or other people in the society; talking with patients and making an attempt to reduce their pain; trying to develop a more balanced equal relationship with patients; and encourage patient active engagement and decision making.

Alternative use of a course book as another instance of problem solving/posing

The course instructor suggested that they use the book as only one source to conduct a search/research journey to know more about the subject they can select by agreement. The learners accepted the suggestion and each two or three person selected one of the topics raised in the course book, after that they were free to use any medical research-based websites, articles, books, medical films and seminars, or they could interview with real patients and doctors around them or in hospitals, and apply any other means to gain understanding about the topic in question, and then share their understanding and raise some research questions for the class to conduct a re-search and research over. Doing so, the teacher was the first community member who did a search and research over one of the topics and raised three questions. He believed that "We can only teach by doing and loving what we do, by embodying in our lives, actions and relationships what we want to teach.

He explains above the first question he posed that he started an exciting learning journey dealing with the topic under investigation and searched it on the internet found some medical sites and in medical sites a number of articles with medical terminology he shared some with the class. It indicates that having no explicit formal medical education the teacher – who has an MA in TEFEL – first described the actions he took step-by-step to find something about the topic in question. He explained how he encountered some technical words and expressions such as "bridge to transplant" or "while you wait implantable heart assist device". Then he raised his first question regarding describing some devices that have the function of an aid for heart problems. He tried to locate these devices historically in medicine and provided the original intended use of them for the students.

Noteworthy is the way he posed his first question both

in terms of form and content: (I like you to check your terminology knowledge to describe some of these devices based on your supposition on how heart works and how these devices may help it in critical times.) It is not in interrogative or imperative form alleviating the pressure, force, and stressful power usually associated with these forms when one is going to be asked something. This form of posing problem – sharing the problem poser's perception and findings – re-defines the problem poser not as an all-knower but as a co-traveler in the journey to learn more about something. Being the one who is going to solve the problem and is gaining a position and feeling power and control over one's own approach towards the problem, there is no right answer and no right way to deal with the problem. Furthermore, there are some words and expressions that inspire the students that they are powerful such as "your terminology knowledge". It means that you certainly own some kind of terminology knowledge. Or "your supposition on how heart works and how these devices may help in critical times" implies that the students can develop a medical imagination or logic that will help them to manage the situation. Then, a table is another finding the problem poser would like to share with the students as another means of empowerment to encourage their involvement in the process of dealing with the problem.

In the second question, the teacher presented two pictures accessed through his internet search of the two devices that are of help in heart problems and he asked students to explain in detail how they work for heart and "Why all of such devices are pertained to 'left ventricular' not the right one?". Here, again the teacher would like to say that to pose some questions he himself also started to move and conduct a search and an attempt to know instead of just standing still and asking you to reproduce some given information. He would like the students to know that he was there, on the scene beside them learning, and sharing his understanding and questions, as well. He challenged the accepted presupposition that only for solving a problem or answering a question one must search and read and analyze, rather for posing a meaningful generative question one must do the same job and add to his knowledge and doubts as well, and be dynamic rather than leaning back and just checking how people reproduce information. He would like to say only creative productive questions bring creative productive answers and it is in this way that knowledge can be produced. At the end he chose some words and expressions from Unit 7 in the book (The pulmonary surfactant system) and asked the students to "connect them in a meaningful way". Instead of checking the students' memory power to remember the Persian equivalent of some medical terminology or asking questions that necessitates recalling memorized prescribed alienated parts and pieces of information, the teacher encourages the students to consider the apparently separated words and expressions as a whole

and in an organic relation with each other. "Everything is related to everything else in some way" he always says to the students. The order in which the words are appeared and the priority of some over the other ones can be helpful in specifying a meaningful relationship among them as the teacher himself explained afterwards:

Teacher: ...You start imagining embolism, pulmonary embolism and these words that probably some of them you do not know and how they are related to it. Then, we say, ok, symptoms, I'm sorry, disease or deficiency has some symptoms, so some of these words are referring to symptoms, yes? Some others are probably talking about or commenting complications, some others about the diagnosis of the problem, yes, about the treatment and so on. You start thinking and this thinking and this logic, it's very important for reading articles in medicine, in any medical texts you read, ok ... Students answered the questions and the following week the teacher gave an oral report of the process he came through in order to pose the questions. Then he presented his analysis of some students' written sentences:

Ava: For diseases we do not say reasons rather using "symptoms", "complications", or "treatment" is technical.

Golnaz: Instead of "lead to" "causes" should be used since pulmonary embolism is the sudden onset of breathlessness (immediately; at the beginning; the primary symptom).

Mina: Some of the signs of pulmonary embolism are breathlessness and dyspnoea while here the students said pulmonary embolism is the sign of breathlessness.

With regard to the second chapter (Chapter 9, Haematuria), there is a picture illustrating several kidney problems and a request for writing about haematuria, its causes, and changes that it may make in the kidney. Again the problem posers share what they have found in relation to the topic, the picture, with the students and then ask them to take some steps further in clarifying the topic. As the second and third questions on the topics raised in chapters 8 and 9 again we have words and expressions related to the topic that the students should try to establish a meaningful connection between to create a whole.

All three questions required active dynamic participation and engagement of both question posers and those who want to answer the questions. There was enough space for the students to devise their personal approach to the problem, give their personal structure to the answers and produce something for the first time instead of reproducing what was produced in advance by others. They also experience that "problem finding (and dealing with the problem) is more significant than problem solving" (Brooks, 2002: 4). This provides an opportunity for the learners to touch closely this great fact that "every person owns his/her experience and every

experience is valuable.

Public medical show: A third problem posing/solving learning journey

Another learning opportunity provided for the ESP II learning community in the present study is a public session held inside the university in which the learning community members prepared and presented a poster on one of their concerns. The audience included a mix of student families, fellow students, and professors, and the content of their posters like any other community activity previously mentioned clearly reflected their voices that was shaping each and every moment in and outside the classroom. In this session each student played the role of the specialist doctor of the concern she had chosen and tried to answer the questions of those referred to her as patient. Patients could be their classmates, medical students from other classes, their professors or any other person who passed by. That was an opportunity to practice making a relationship with a patient and examine the kind of language they used.

At the very beginning of the session the students formed small circles (consisting of 3 or 4 people), explained about their concerns and answered the questions of their friends as patients. Then all the community members sat down on the ground in a big circle in one of the exam saloons of the college, where they hold the session, and talked about their concerns one by one. Later, the audiences raised their questions or requested for more explanations to clarify the points.

As medical students and then doctors, that was a preparatory practice for future cases they would like to take part in a public session and present something and be responsive to the audiences' questions and requests for clarification. Of course audiences were considered as patients with no formal medical instruction so the students should care about the kind of language they used to talk and answer, and should try to give the patient a position and share him the power for decision making. As a matter of fact the session was supposed to be a real scene for operationalizing all what they had learnt during the semester listening to, reading, watching and talking with each other. Here there is one part of Leila's explanation of her concern followed by some questions and answers:

Leila: My concern is Absenceepilepsy that is my sister's problem. Absenceepilepsy is a kind of disease like cancer but it is in the brain. In normal people when their neurons and cells wanted to stimulate, it stimulates at 90 milivolts but people who have epilepsy their neurons stimulate at 50 milivolts and because of that lower stimulation their skeleton and muscles contract involuntarily, for example, in sleep their feet and hands jerk and jump...As an alternative to the receiving

approaches to foreign language education, the guiding principles of this ESP II course is that teachers and students, even at the earliest levels of linguistic proficiency, should begin to find and elaborate their own real concerns and to connect their living experiences to the world of those whose language they are learning. For this learning/research community members "... learning is an untidy process of constructing new relationships in the interaction of cultural understandings, the influences of the information environment, familiar stories, idiosyncratic ways of making meaning, and schooling" (Kincheloe, 2004: 83). Critical literacy is learning through posing and resolving "existential problems", as Giroux (1993) indicates. This means "developing the theoretical and practical condition through which human beings can locate themselves in their own histories and in doing so make themselves present as agents in the struggle to expand the possibilities of human life and freedom" (Graman, 1999: 148). It is a matter of learning or education for freedom not control. When both teachers and learners recognized that learners have the ability to pose their own problems and struggled to achieve their own solutions, the liberatory action of education begins.

Conclusion

Positioning each community member's personal, family and then society medical concerns at the heart of the curriculum and listening to people's stories and telling one's own seems to us to be a matter of extending the sense of belonging and relation to an academic space. It's an attempt to achieve "... a growing awareness to tap local resources to solve local problems using local expertise and experiences" (Kumaravadivelu, 2006: 223). It means there is an attempt that each person feels the classroom can be like her home and the classmates and teacher can be like her family members with all their feelings, hopes, desires, support, worries, kindness and treatment for a member. Thinking and working on personal medical concerns seem even strengthen more the newly formed family's bonds and sense of affection people in this study have in their hearts for each other. It changes the class into a big family with several members in which every member's pain is told, listened to, thought on, talked about, searched for, and tried to be treated. Belonging to a large family with different people who have different capabilities to help and support helps people gain power and energy to move and be motivated enough to transform what they may suffer from their mind and surroundings.

"Empowered by the new identities" (Norton and Toohey, 2004: 119) and not being stressed under the pressure of exam and just memorizing and recalling isolated pieces of information and being rewarded to compete in addition to have a belief in the idea that "although problem solving is important, it does not place the same demand on the (learner's) thinking as problem

finding. ... to begin to see differently, to recognize a problem to be solved or an idea to be expressed" (Graves, 1999: 79), the community members in this study really experience a sense of peace and quiet by means of which they can devote all their time and energy to search and learn something to make life for themselves and others easier, more comfortable, beautiful, enjoyable concern in which everybody is responsible and powerful enough to do something, to explore, move, to be dynamic and benefits from other people's help and support.

The students in this study learnt to become critical of the writings by carefully listening to or reading their own writing as well as, those of their community members. Editing and revising, identifying conceptual and linguistic problems, offering solutions, and writing revised drafts for further analysis and critique through conducting a kind of constructive dialogue is a matter of personal growth, not reproducing information but developing critical perception with regard to language, logic, information and values that take place in this ESP II course for the learning /research community members "... to continuously reinvent themselves via their research and knowledge production" (Kincheloe, 2004: 13). They used "language as a tool, a way to 'name the world, to change it'" (Shor and Pari, 1999: 140) and "to bring new life to learning and new learning to life" (Graves, 1999: 117). This effort to build a syllabus beginning with the concerns of the students reflects a negotiated power-sharing approach towards curriculum development. In this class, boundaries between teacher and learner blurs and both students and the teacher are empowered to function as "cultural workers" (Giroux, 1993: 52) and act upon their world, and in the social context provided inside their learning community there is an effort to hone critical and analytical skills of learners.

As a practice of an education centered around problem posing and problem solving activities this study is an account of how legitimizing participants' real life concerns (medical concerns) as the main theme in an educational experience leads to their growth as problem-posers and problem solvers. Despite the challenges, that especially originate from the students' background of years of traditional school education, all the 24 third semester students of medicine in this study talk about, share, write, analyze and re-write their personal, family and society medical concerns and gain authority, power, and freedom to devote time and energy to pose their problems (medical concerns) in any way they want and use any research resource including medical websites and journal articles, interview with real patients, doctors and other hospital staff, watching medical films and seminars, holding a public medical show, and so on to solve the posed problems. They also approach a course book in an alternative way and take part in a public medical show (a poster presentation session) as instances of providing innovative learning environments in and outside a classroom. It is during these process of problem posing and problem solving that the learning/research community

members engage in continual learning and reflection, develop a situated understanding and construct a local solution of the real problems that are the immediate concerns of their everyday life.

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