Teaching Students to Develop a Web Site as a Tool for Marketing Pharmaceutical Care Services

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In the future, successful marketers of services to consumers will need to include the Internet in their marketing plans. Learning to use the Web to understand and make use of the emerging electronic marketplace is a vital skill that can be taught using a practical, hands-on approach in the classroom. This article describes a classroom project that involved student teams developing an Internet web page to market a hypothetical pharmacy and promote pharmaceutical care services. This exercise successfully involved students in using both creative and analytic skills to gain hands-on experience in constructing a mission statement and marketing plan for a new business concept.

INTRODUCTION
Pharmaceutical care has become the focal point for pharmacy practice for the next millennium. Roberts(1) asserts that “as pharmacy broadens its perspective of duty and responsibility, the great void in the pharmaceutical care needs of patients and other health professionals becomes apparent”. He continues to state that “given the great need for pharmaceutical care and the fervent desire in the profession to formalize this professional practice philosophy, it now becomes the goal of practitioners to market the concept.” In addition, Anderson-Harper(2) urged pharmacists to recognize that marketing involves ideas, services or products, and that successful pharmacists should learn to apply effective and efficient marketing management techniques to their practices.

This new paradigm of pharmaceutical care requires a marketing plan that includes a variety of promotional strategies. In the future, successful marketers of services to consumers will need to include the use of the Internet in their plans. The World Wide Web is growing at a phenomenal rate and it currently boasts over 50 million users(3). The Web’s ability to work with multimedia has caused it to become a very popular component of the Internet, thus making it an accepted way to market products and services. Since businesses are using the Web for sales, marketing and customer support, it is important for students to understand how this new tool works. Learning to use the Web to understand and make use of the emerging electronic marketplace is a vital skill that can be taught using a practical, hands-on approach in the classroom. However, students
must understand that for a marketing plan to be successful, the Web is only one of many strategies that may be used to promote pharmaceutical care services.

A review of the literature revealed several marketing articles that described how various parts of the Internet could be used to enhance the classroom experience. These projects involved using the Internet for telecommunications, electronic mail, electronic portfolios, and preparing cases(3-8). However, the pharmacy literature did not reveal any courses that had utilized the Internet to teach marketing.

Pharmacy Operating Systems (PCS 465), a ten-week course, is designed to introduce the students to the operations of a pharmacy including human resource management, automation and robotics, managed care/third party concepts and marketing. The pedagogical approaches utilized include small and large group discussions, problem-solving cases, small group projects as well as varied lecture formats. This article describes the marketing project which involved students working in groups of three to seven to prepare a web page to market a specifically targeted pharmaceutical care service.

PROJECT DESCRIPTION

A series of lectures were given to describe: (i) the conceptual information about marketing a professional pharmacy; (ii) components of the marketing mix; and (iii) the need to integrate multiple promotional techniques in the overall marketing plan of a pharmacy. Students received several articles(1,2,9,10) in advance that coincided with the material presented in the lecture. The articles were selected to involve the students in a discussion. The essence of the articles revealed that due to the changes in pharmacy, many pharmacists have to offer special services to remain competitive.

Next, the intention of the marketing project was described to the students as follows: to work in a team to develop a hypothetical pharmacy in which a new service will be provided for patients. The goal is to have the team develop a web page to promote the new service and to post the web page on the Internet. The specific learning objectives of the marketing project were to: (i) increase students’ understanding and awareness of marketing principles; (ii) improve students’ communication skills; (iii) apply the marketing concepts acquired in the classroom to designing a web page; and (iv) enhance students’ ability to work in teams. Although the Internet is used as the marketing strategy for this project, the students were exposed to other techniques throughout the course. The Internet was selected as the project format because of the ability of this medium to provide a convenient forum for creating, delivering and evaluating a state-of-the-art message.

PLANNING SEQUENCE

The students were directed to focus on the first three steps outlined in Roberts’(1) planning sequence as identified in Figure 1.

Define the Practice

The course instructor randomly assigned the specific pharmaceutical care service each team would address. Examples of the hypothetical services that students selected included:

- Their pharmacy is developing a service for hypertensive patients in which the students plan several activities including (but not limited to) monitoring of patient’s blood pressure, providing diet/exercise plans, and educating patients about their disease;
- Their pharmacy is developing a service for female patients in which students will focus activities on providing patients information and services regarding health concerns specific to their gender.

Constructing a Mission Statement

The next task was to develop the pharmacy’s mission statement that determined the practice goals and objectives. Students received readings and a lecture about the mission statement and its role in marketing. The learning objectives of this lecture were for the students to understand:

- the purpose for developing a mission statement;
- that a mission statement consists of broadly defined statements of purpose from which more specific goals are derived;
- that the operations and marketing of a business surround the FOCUS of the mission statement;
- the elements that shape an organization’s mission;
- how the mission conveys the image and the image conveys the mission; and
- the important components of a mission statement.

**Table I. Components to include in mission statement**

- The definition of the business
- Customer (Market Segment Scope)
- Products or Services (Vertical and/or Horizontal Scope)
- Location (Geographic Scope)
- Technology
- Concern for Survival (Economic Growth and Development)
- Philosophy/Values/Major Policies
- Self-concept (Strengths)
- Concern for Public Image
- Concern for Personnel/Employees
Examples of good and poor mission statements (from nonpharmacy businesses) were presented in class and students were asked to comment on the components of these mission statements.

Next, students were encouraged to use some or all of the components listed in Table 1 in their mission statements based on the values of the business and of the customer. To develop their mission statements, they were asked to consider the following questions: (i) What is our business? (ii) Who is the customer? (iii) What is of value to the customer? (iv) How do we communicate/promote our mission to that customer? (v) What will our business be? (vi) What should our business be?

Constructing the mission statement involved several steps. First, students brainstormed all words and phrases related to each important aspect to be included in the mission statement. For example, aspects might be identified as: (i) the business’ desired position relative to its competitors; (ii) the types of products and/or services to be offered; and (iii) the proposed target markets. Students recorded all suggestions in a draft mission statement.

Second, they reviewed the suggestions, carefully eliminated inapplicable words and phrases, and kept only those that best reflected the essence of the business and its vision for the future. Third, students arranged the words and phrases into a few grammatically correct sentences. Finally, they received feedback on the draft mission statements from the course instructor and/or teaching assistant. Students were urged to search for the most appropriate wording until the entire mission statement was clear, concise and complete. Once the mission was clearly stated and understood by all members of the group, they developed the marketing strategy.

Developing the Marketing Strategy

Students were encouraged to develop a strategy that provided details about the audience to be targeted and the marketing mix to be utilized. They were instructed to explore web pages from other businesses to learn about their marketing strategies. More specifically, on the marketing strategy they were asked to consider:

- The target markets. Who are the intended audiences of the marketing mix?
- The products/services. What are the specific product or service sets to be provided?
- The distribution/delivery system. How will the services be most effectively brought to the user?
- The promotional system. How will the web site design guidelines be used to effectively reach the specific target markets?
- The personnel. What talents and skills are needed to provide comprehensive pharmaceutical care services? What credentials will the marketplace require?
- The price. What is the relative value of pharmaceutical care to the target audience in comparison to the alternatives?

It was emphasized to the students that all components of the strategy are interrelated. In addition, it was explained to the students that all elements of the marketing mix must be integrated to serve the needs of all potential audiences. These could include the health care needs of patients, the collaborative information needs of other health care providers, and the documented cost effectiveness needs of third party payors.

WEB DESIGN

The Pharmacy Operating Systems course is not designed to teach computer skills. All of the students had experience using the Internet, but only one individual (in each quarter) had previously developed a web page. Therefore the students were instructed to use an existing web page-authoring package. Students were encouraged to use Microsoft® Word 97 to develop the web page because of its efficient step-by-step guide for web page development. In addition, this software was available to the students on twenty computers in the School of Pharmacy computer laboratory.

Web Style Guidelines

A mini-lecture was given to provide Web design guidelines as described below.

- **Capture Their Attention.** Put the most important information near the top of the web page. Try to catch people’s attention so that they will look at the rest of the page.
- **Content.** The purpose of the content is to attract attention and keep the consumer reading. Organize the information for quick scanning, by using headings, lists, and/or breaking the page into smaller pages. Write clearly and briefly.
- **Aesthetics.** Design the layout of your site. Attractive pages are better than plain pages. One must strike a balance between how many and what kind of graphics, colors and animation are appropriate for a particular site. Avoid too much blinking text, it can be distracting or annoying. Use better ways to emphasize text, like bold, italics, or color. Bright colors can help attract a user’s eye, but colors affect the eye differently. Research has shown that blue, green and yellow work best, while white, red and black are less effective. Use icons or bullets for a purpose, not because they look “neat”. Consider font size of the title, headings, text, icons and bullets. Determine what combination of colors/images/logos consistently depicts the desired mission of the pharmacy. If possible, preview the images on several hardware and browser combinations.
- **Navigation.** A well-planned site flows effortlessly. Links between pages should be organized in a logical, seamless manner so that a user does not get lost traveling from page to page in search of a particular piece of information. Every page should have a purpose, and helpful pointers in new or unfamiliar directions should always be included. Make the page(s) easy for the consumer to follow. For example if using several web pages, be sure to provide links back to the home page. Consider duplicating navigational buttons in the same general location on all pages.
- **Speed.** Many users who are connecting on their modems will not want to wait for too many huge pictures and other multi-media files to download onto their computers. If a page is taking too long to load, they may just abort the connection and move on. Remember; do not overload the web site with graphics since they take a long time to load up.
- **Hyperlinks.** Create at least 5 hyperlinks to Internet
Table II. Grading criteria for the marketing project

<table>
<thead>
<tr>
<th>Marketing Content (20%)</th>
<th>Marketing Strategy (40%)</th>
<th>Web Design (30%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Description (i.e., what is service, how will services be provided, quantity of services, etc.)</td>
<td>Mission Statement (i.e., clearly stated, addressed each component of a mission statement)</td>
<td>Organization (i.e., logical order, etc.)</td>
</tr>
<tr>
<td>Thoroughness (i.e., covered major issues relevant to the pharmacy service, content effectively achieves its purpose, etc.)</td>
<td>Pharmacy Staff (credentials appropriate for mission)</td>
<td>Title, Section Headers (i.e., appropriate, etc.)</td>
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<tr>
<td>Quality (i.e., written well, standardized format, content flow, etc.)</td>
<td>Audience (i.e., audience identified, clear purpose for audience intended, at the level for the intended audience)</td>
<td>Attention Catching (i.e., yet non-distracting, etc.)</td>
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<tr>
<td></td>
<td>Creativity (i.e., overall marketing scheme, page has strong eye appeal)</td>
<td>Graphics (i.e., makes a significant contribution to site, appropriate size, serves a clear purpose)</td>
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<td></td>
<td>Feasibility (i.e., consistent message, comprehensive)</td>
<td>Navigation (i.e., links works, sufficient links forward/backward, etc.)</td>
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<tr>
<td></td>
<td>Contact Information (i.e., address, hours, e-mail, etc.)</td>
<td>Color (i.e., appropriate for mission statement, readable, etc.)</td>
</tr>
<tr>
<td>Internet Patient Education Sites (10%)</td>
<td>Relevance to Pharmacy Mission Statement</td>
<td>Internet Patient Education Sites (10%)</td>
</tr>
</tbody>
</table>

Table III. Evaluation of marketing concepts

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<tbody>
<tr>
<td>Avg. Score on Exam (questions pertaining to marketing)</td>
<td>94.5%</td>
<td>95.7%</td>
<td>91.7%</td>
</tr>
<tr>
<td>Avg. Total Project Grade</td>
<td>87%</td>
<td>90%</td>
<td>84%</td>
</tr>
<tr>
<td>Number of Teams (total number of students)</td>
<td>12 (48)</td>
<td>11 (61)</td>
<td>16 (80)</td>
</tr>
</tbody>
</table>

Evidence of Marketing Concepts Embraced

This project successfully involved students in gaining hands-on experience in constructing a mission statement and marketing plan for a new business concept. It incorporated both creative and analytical skills. As evident in Table IV, students gave their hypothetical pharmacy a name: The Medicine Chest, University Drug, and KMS Drug. Students developed thorough mission statements for their hypothetical pharmacies that incorporated the services that were offered. Examples of some of these mission statements are listed in Table IV. Evidence that the students applied the marketing concepts was seen in the students’ final projects that were posted on the Internet. Their web sites contained effective content, graphics, navigational properties and hyperlinks to promote the services. Further, the students developed creative marketing presentations. Several of these projects and marketing concepts are described in the next sections.

The Eldercare Pharmacy group exhibited an understanding of their target audience in not only the image reflected in their design, but also the content of their web page. Throughout the web page are pictures depicting senior citizens actively taking care of themselves. The mission statement of this group asserted a desire to help improve patient quality of life through education. Not only did the group encourage their target audience to stay active, but they also included some innovative educational ideas. For example, they included a list of hypothetical classes offered at the pharmacy and a hypothetical calendar of community events geared toward active seniors and their exercise needs. All graphics and colors were commensurate with the image conveyed in the mission statement, and services offered on the web page addressed all the elements within the mission statement.

Another example involves the Medicine Chest group, which targeted an audience of cholesterol patients. The name of the pharmacy and image created were reflected throughout the web page design, complete with pulsing heart graphics. The team did a very good job of integrating all elements of their mission statement with the content of the web page.

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Table IV. Selected examples of the web pages from the class project

<table>
<thead>
<tr>
<th>Name of pharmacy</th>
<th>Mission statement</th>
<th>Features of the site</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Medicine Chest</td>
<td>Our mission at The Medicine Chest is to provide comprehensive, personalized, and convenient cholesterol management to residents of Lee County and surrounding areas. Our experienced staff will use their knowledge in nutrition and cardiovascular disease along with Cholestech technology to help monitor cholesterol levels. Through patient education we will promote self-management to improve quality of life.</td>
<td>Navigational quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Layout</td>
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<tr>
<td></td>
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<td>Hyperlinks</td>
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<tr>
<td>University Drug</td>
<td>It is the mission of University Drugs and its team of female pharmacists to provide information, FREE of charge, concerning women's healthcare to women ages 16 to 45 of Lee County, Alabama. Our focuses will range from topics on menstruation to breast cancer, as well as concerns of the general population. We will offer videos concerning major health-related topics for customer viewing while waiting for prescriptions to be filled. These services, unique to our pharmacy, will provide increased awareness in the female population concerning healthcare needs. This will enable them to recognize potential healthcare problems and know where to seek help. Our team will work together to promote the health and well being of today's women.</td>
<td>Services</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Graphics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Layout</td>
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<tr>
<td></td>
<td></td>
<td>Patient Education Sites</td>
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<tr>
<td>Diabetes Health Management</td>
<td>Diabetes Health Management Center will use its facility to provide pharmaceutical care by serving as an educational innovator, monitoring service and resource of supplies and referrals for patients and health care management professionals to increase quality of life for patients with diabetes. Diabetes Health Management Center will provide education for patients in partnership with their doctors, nurses, and home health care providers for appropriate drug treatment, nutritional needs, exercise regimens and monitoring parameters of diabetes. These services will be consistently provided for with efficient and effective quality while maintaining an economic growth for the center.</td>
<td>Layout</td>
</tr>
<tr>
<td>Center</td>
<td></td>
<td>Content</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Graphics</td>
</tr>
<tr>
<td>KMS Drug</td>
<td>KMS Drugs, serving Douglas and the surrounding areas, is a facility which specializes in the recognition, education, and treatment of patients suffering from asthma. As retail pharmacists, we have incorporated an asthma management program into our pharmacy with the intention of increasing patient awareness of the therapeutic benefits of effective disease management. We plan to use various educational tools, peak flow monitoring, and computerized patient files to maintain inhaler use and peak flow records. This program intended to provide pharmaceutical care, manage patient outcomes, and reduce the overall costs of healthcare, while striving to maintain an economic growth in our pharmacy.</td>
<td>Layout</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Content</td>
</tr>
</tbody>
</table>

An emphasis raised in this group’s mission statement was collaborative networking with patients’ other health care providers in order to provide comprehensive care for the patient. The web page includes a section called, “Physician’s Corner” which targets services for both the patient and physician audiences. In addition, they included the credentials of their “experienced staff” and revealed staff efforts to “collaborate with physicians”.

The Diabetes Health Management Center group did a superb job of finding graphics and pictures depicting scenes related to professional diabetes management. The emphasis of their mission statement indicated a desire to be an educational innovator, be a supply and referral resource, provide a blood glucose monitoring service, and improve patient quality of life. This group provided a hypothetical schedule of monitoring opportunities at the pharmacy and innovative classes for issues related to patients with diabetes. They also offered an extensive video library for in-pharmacy viewing or free check-out, and, they gave web links to other local and national diabetes management organizations.

Subjective Evaluation

In addition to the achievement of marketing objectives for the project, the majority of students indicated that they learned much about the use of the web. In a follow-up inquiry (Appendix A) of students regarding the project’s effectiveness or usefulness to them, it was found that most had positive comments. A majority specifically expressed that the project gave them insights into marketing techniques. Particularly, they learned not only how to “sell” their pharmacy service, but also that they had to think about their target audience(s) and related demands.

They indicated that they felt they were using a state-of-the-art medium that put them on the cutting edge, and that it enhanced the professional image being conveyed for the hypothetical pharmacy service. The web page development was not a deterrent to the application of marketing concepts, but rather, enhanced them, and it also did not interfere with successful and creative completion of the project. As can be seen in the examples included, the students were able to pull into their web pages some very applicable and
professional graphics that enhanced the overall quality of their output. Finally, before the project, only one student had created a web page. After the project, over half of the students indicated a confidence in creating their personal web pages.

Their efficiency in working in teams was also evident from their subjective comments. The majority stated that they divided the work among team members and met as needed to coordinate the assignment. In addition, several teams assigned work based on group members’ expertise, for example those with computer skills handled the computer aspects, those with efficient writing skills worked on the content, etc.

Time Commitments for the Project

Regardless of the amount of time allocated to this assignment, students averaged three hours per week to complete the marketing strategy. They averaged about five total hours to post the marketing promotion onto the Internet. The course instructors met with teams an average of 30 minutes per team to assist with the marketing strategy.

CHALLENGES ENCOUNTERED

The project results suggest that most students were able to apply the concepts presented throughout the term. However, a few minor points could improve the project for future use. These focus on team composition regarding level of experience and more direct software introduction in class.

As with any group project, the skills individual members do or do not bring to the table will serve either as an advantage or a barrier. In the future strategies to avoid potential pitfalls that are inherent with team work, (i.e., learning styles, personality types, level of experience) may be used to select team member composition, rather than just allowing students to self-select their friends and acquaintances as team members.

In the Fall 1997 class, it was learned that some students encountered unusual computer problems and seemed to dislike the way the web page authoring software formatted their web page. For example, the authoring software would change some text to all bold, or italicized, when the students did not want these features. This did not deter them from completing the project because they were able to consult with others who had more computer expertise in resolving these issues. However, this issue was resolved in subsequent classes by including a handout about potential pitfalls encountered with the computer procedures and the authoring software.

CONCLUSION

The project provided valuable lessons for students: it illustrated the importance of demanding thorough conceptualization of ideas and clear writing skills in any business setting. In addition, it demonstrated the importance of working as a team to develop a common mission statement and marketing strategy. This type of project could be expanded to include other factors related to marketing services and other marketing strategies. Moreover, the project showed how important it is to work ideas into a written document to which others may readily refer in the future. Finally, the project increased collaboration and interaction among the students, as was evident in other team projects throughout the quarter. The class web page projects may be viewed at <http://www.auburn.edu/~anderhe/classprojects.html>.

Acknowledgement. The authors wish to thank the students for granting permission to post their web pages in a permanent file on the Internet.


References


APPENDIX A. SUBJECTIVE EVALUATION

1. Before you took this course, had you used the Internet? If so, describe.
2. Before you took this course, had you developed a web page? If so, what language/software did you use?
3. The purpose of the project was to work in teams to prepare a marketing promotion on the Internet. Did the project achieve the purpose, why or why not?
4. How could the marketing assignment be improved?
5. What was the approximate time that your team used to develop the marketing strategy?
6. What was the approximate time that your team used to post the marketing piece on the Internet?
7. After completing this assignment, do you feel confident in developing a web page for yourself? For a pharmacy