INSTRUCTIONAL DESIGN AND ASSESSMENT

Service Scripts: A Tool for Teaching Pharmacy Students How to Handle Common Practice Situations

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Objectives. This paper describes the use of service scripts to teach pharmacy students how to manage specific practice situations by learning and following scripted behaviors.

Design. Based upon role theory, service scripts require specific behaviors for a broad range of practice problems and communicate consistent messages about the responsibilities of all people involved. Service scripts are developed by (1) identifying scenarios for the script, (2) eliciting the script's structure and content, and (3) documenting the reasoning behind the steps in the script.

Assessment. Students in a nontraditional doctor of pharmacy program developed scripts for their practice settings. They concluded that scripts were useful for quickly learning new, routine tasks, but expressed concern that scripts could be misused by pharmacists and managers. The process of script development itself was useful in gaining feedback about common practice problems.

Conclusion. By mastering managerial, clinical, and communication scripts, students can develop capabilities to provide professional services.

Keywords: role playing, services marketing, training, competency, scripts, behavior

INTRODUCTION

Periodically, the competence of pharmacists is tested by the media and found to be lacking. One example comes from an article published in 1996 in the *U.S. News and World Report* titled "Danger at the Drugstore."[1] The article reported on a study that found that more than half of the pharmacists at 245 pharmacies in 7 cities failed to appropriately warn patients about 4 common drug interactions. Although the study is almost a decade old and subject to methodological biases, the findings are still relevant to problems seen in pharmacy practice and education today.

The article deals with the basic question, "why don't pharmacists more often do what they are supposed to do." If the research from "Danger at the Drugstore" were repeated today using a stronger study design and exploring a broader range of professional responsibilities, the findings would probably be similar: that pharmacists are not completing some of their basic responsibilities.

Indeed, the medical literature provides some evidence that pharmacists are missing opportunities to serve their patients. A study of reactive airway services provided by community pharmacists found that one half of the time, pharmacists did not access patient-specific data or document actions when serving the targeted patients.[2] Another study found that pharmacists dispensed Cisapride (a gastroesophageal reflux medication) with contraindicated drugs despite widespread availability of drug interaction software and strong warnings about potentially fatal risks.[3] Even basic counseling is provided inconsistently by pharmacists.[4]

Although there are many possible reasons for pharmacists' performance lapses (eg, excessive workload, inadequate information), this paper proposes that deficiencies in pharmacists' training are at least part of the reason. Specifically, this paper argues that many pharmacists do not fulfill their professional roles because they do not know what to do or how to do it as a result of inadequate education, training, and supervision.[5] Additionally, this paper responds to these deficiencies by presenting a tool to help teach students and pharmacists how to resolve specific practice problems.

The article, "Danger at the Drugstore," offers good illustrations of some of the training deficiencies seen in pharmacy education and practice today.[1] It describes the responses of pharmacists to 4 common drug interactions that could harm patients. The overall quality of pharmacists' responses can be described as inconsistent at best. In some instances, pharmacists dispensed dangerous drug combinations without any warning, while in others they

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provided vague guidance for the patient to speak to a physician. Some pharmacists refused to dispense interacting drugs, and others inadvertently covered warning labels with "thank you" stickers. Some pharmacists appeared to be confused about what actions they should take or their professional responsibilities when facing a drug interaction. Several anecdotes described pharmacists who demonstrated a fundamental ignorance of drug interactions. One stated that "he didn't report a birth-control pill–Rimactane interaction because Rimactane didn't render the contraceptive pill completely ineffective, only partially ineffective." Other pharmacists appeared to be aware of the drug interactions but did not know how to resolve them. For a potentially fatal, contraindicated combination of Hismanal (astemizole) and Nizoral (ketoconazole), a pharmacist told a patient (without consulting the physician) to "start taking one drug after finishing the other." Another stated that she was aware of a Hismanal-Nizoral interaction but did not do anything because "it didn't pop up on her computer." Some pharmacists stated that they never called physicians about drug interactions when the drugs were prescribed by the same doctor on the assumption that the doctor was aware of the interaction. Still others gave verbal warnings but dispensed the medicines anyway. Although it may be possible to defend or explain these individual events one by one, when considered together they indicate a severe problem in training and in carrying out professional responsibilities.

Some of the deficiencies in handling drug interactions and other common practice-related problems can be blamed on pharmacy education. In pharmacy school, students typically learn about drug-related problems and difficult practice situations in general terms but do not receive specific nor extensive training on how to resolve them. Some students may receive adequate training in advanced pharmacy practice experiences (APPEs), but not all students have these opportunities.

Consequently, pharmacy students learn how to deal with most practice-related problems on the job, through trial-and-error. This may be adequate when work settings provide good training, support, and feedback mechanisms. Indeed, on-the-job learning can be one of the best ways of developing good work behaviors and professional practices. However, inadequate performance by pharmacists illustrated by studies such as the one reported in the article, "Danger at the Drugstore," indicates that training gaps exist in work settings.

This paper describes and demonstrates a training method to teach pharmacy students how to handle specific practice situations by learning and following scripted behaviors. This competency-based approach to learning can ensure that students are able to appropriately handle common but important practice situations. The objectives of this paper are to describe the method, provide a theoretical foundation for its use, and discuss its application in a nontraditional doctor of pharmacy program.

DESIGN
Service Scripts

One way to improve the capabilities of students and pharmacists to effectively respond to real life practice situations is by implementing *service scripts*, a tool developed by the service marketing industry. A service script is defined as a written set of scripted actions that prescribe specific steps for handling customer service situations.[6] This role-playing method has been used in research evaluating health care quality.[7,8] Service scripts are also commonly used by businesses to train employees to perform routine and recurring tasks in a standardized manner to ensure consistent quality.[9]

An example of a service script used in pharmacy education is the Indian Health Service guidelines for counseling patients.[10] The guidelines consist of 3 scripted questions relating to what the patient knows about the drug indication, directions for administration, and potential problems to expect. The guidelines provide general directions for inexperienced students to help them learn about counseling patients. As experience is gained, students adapt the script to their own communication styles and the counseling situation at hand.

Pharmacy educators can use service scripts to train students to perform a broad range of familiar practice, clinical, and managerial tasks. Scripts can be used in communications courses to teach students how to handle routine patient counseling and professional communication situations. For instance, students can learn and practice how to respond to an angry physician or patient. In management classes, scripts can be used to address common personnel issues such as how to provide constructive feedback to technicians or respond to a dispensing error. In pharmacy practice laboratories, instructors can develop scripts to train students to deal with problems such as how to respond to requests about intravenous medication incompatibilities or drug interactions. Clinicians and preceptors can develop scripts for clinical problems such as what to do in an outpatient clinic when patients have renal or hepatic deficiencies. Table 1 lists other situations for which service scripts can be used.

Theoretical Foundation

The origins of service scripts can be found in role theory. Role theory describes behaviors that individuals should and do adopt in certain roles.[11] In health care, physicians, nurses, and pharmacists each adopt specific

behaviors widely associated with their professions. Role theory addresses the roles played by individuals and the degree to which they effectively play those assigned roles.

Scripts address the dyadic exchange relationships between service consumers and providers. Marketers use service scripts to address incongruent role expectations and performances that will lead to dissatisfaction with the service encounter. Service scripts utilize role-playing scenarios to train individuals to perform their assigned responsibilities. Those role-playing scenarios incorporate the best evidence from the services marketing literature[12] to identify ideal ways of handling service situations and to employee these practices in training exercises.

Use of service scripts to complete professional roles is analogous to the use of scripts in theatrical performances. Service experiences can be likened to scenes from a play where the service providers are actors, and customers are participating members of the audience.[13] Roles of both service providers and customers are similar to parts in a play, where the quality of the service experience depends upon the actors, the script, and the actors' performance of their parts. The best performances occur when role expectations and performances between the actor (service provider), audience (customers), director (manager), and fellow actors (coworkers/other professionals) are congruent. When they diverge, confusion and poor performance can result.

A major advantage for following service scripts in pharmacy practice is that they communicate a consistent message to others involved in the service act. Without service scripts, pharmacists may send mixed messages to patients, physicians, and others. For instance, penicillin allergic patients who present penicillin prescriptions to pharmacists are often handled differently depending on the pharmacists or practice situation, leading to potential confusion on the part of the doctor. Consider what a physician's general impression of pharmacists would be if one pharmacist calls the physician to consult about penicillin allergies in patients, another gives prescriptions back to patients with the warning not to take the medicine, and a third dispenses the medications "as written" on the assumption that the physician knows more about the patient's condition. At minimum, the physician would conclude that the quality of patient care provided by pharmacists is erratic.

An additional advantage of scripts is that they assign responsibilities to the performing parties. When the roles of technicians, pharmacists, and managers are clearly delineated, individuals know exactly what is expected of them and can be held accountable for their work. It is more difficult to shirk professional responsibilities when scripts establish and describe clearly what is expected of

employees. This makes scripts useful in training and supervising pharmacy employees. If widely utilized in training and practice, service scripts can result in a more consistent and appropriate standard of care from pharmacists and other pharmacy employees.

ASSESSMENT

Two exercises were conducted utilizing service scripts as part of a nontraditional doctor of pharmacy (PharmD) program at Virginia Commonwealth University School of Pharmacy. The exercises attempted to achieve the following learning objectives:

- Identify roles for pharmacists in specific service situations
- Delineate scripts for those roles
- Discuss ways to utilize scripts in practice
- Identify benefits and potential problems with the use of service scripts

The class consisted of 22 licensed, practicing pharmacists with bachelor of science (BS) degree in pharmacy degrees who were going back to school to earn their PharmD degrees. Students came from a variety of practice settings including retail, hospital, and long-term care. All had been practicing as pharmacists for at least 5 years and completed this exercise as part of a management course they were taking.

In the first exercise, each student was asked to answer the following questions in a threaded online discussion (ie, respondents were able to see the responses of previous respondents) posted on the course website.

How might service scripts be used in your pharmacy school or work setting to learn important skills? What skills should be learned through service scripts? When would a script not work? No systematic, quantitative analysis of the responses was conducted since Institutional Review Board approval was not received prior to conducting the exercises. Therefore, a general summary of student responses will be provided.

Responses from students were relatively positive and consistent on the use of service scripts as a training tool. All students felt that scripts would be useful in training students and new pharmacists. It was also suggested that employees who were changing jobs, practicing pharmacists who needed updating on appropriate practice procedures, or any employee facing new tasks or procedures might benefit from the use of scripts.

Respondents mentioned that the utility of scripts depended on the types of tasks to be learned. They felt that scripts were most useful in learning routine, unfamiliar tasks. In contrast, respondents felt that highly technical tasks would be more difficult to script due to their complexity and the need to provide flexible options for the

individuals involved. For example, a script for handling an out-of-stock medication would be easier to develop than one for handling several interacting drugs.

Most students expressed some regret that service scripts were not widely utilized when they first started practicing as pharmacists. A few had limited, previous experience with service scripts and found them to be useful in building skills and gaining confidence in learning new tasks. They also felt that scripts helped speed up learning and skill development.

One of the greatest reservations expressed by the students was that service scripts might be misused for inappropriate purposes or applied to the wrong situations. Some were concerned that pharmacists might use scripts as a substitute for professional judgment. They expressed apprehensions that individuals might blindly follow the scripts rather than use them to guide actions. They also worried that scripts might be used as an excuse for inaction or poor performance (ie, "I just followed the script"). Other respondents expressed concern that managers might require pharmacists to follow scripts exactly as written and thereby constrain professional judgment rather than facilitate it.

A second exercise was assigned that had each student develop a service script for one of the service situations in Table 1. The purpose was to introduce students to the process of script development and develop a group of scripts that could be shared with others in the class.

A script starts with a scenario. For example, the following scenario might be identified, "A physician order is received in a hospital pharmacy for an incompatible intravenous combination (eg, Phenytoin in D5W) for a non-emergency situation. The pharmacist has identified the incompatibility based on her general knowledge, but cannot remember specific details associated with the incompatible combination. How should the pharmacist proceed?" This scenario sets the stage for the service event for which the script will be applied. It also helps students visualize the process and makes it more meaningful to them.

If necessary, several variations on scenarios could be developed to identify situations where a specific script may not easily apply. For example, an emergency order for an incompatible phenytoin/solution combination may require a different response than a non-emergency order. Consequently, scripts may need to be modified or completely revised for alternative situations.

Learning objectives should be utilized in developing scenarios. Typically, learning objectives will revolve around some practice situation that did not work out very well in the past. In many cases, the person writing a script will have in mind a specific incident from their own ex-perience that led to an undesirable result. The learning objectives for the incompatibility scenario might be to "understand the nature of phenytoin incompatibility in different solutions, utilize incompatibility references to recommend acceptable alternative actions to communicate to nurses and physicians, and list specific steps to take when presented with an incompatible drug combination."

To supplement personal experiences, educators can solicit experiences from others using the critical incident technique.[14,15] The critical incident technique attempts to elicit descriptions of extreme situations in which a particularly memorable incident occurred (usually extremely good or bad). A pharmacy educator might ask pharmacy employers or clerkship preceptors to "describe a specific incident in which a student or pharmacist provided especially bad service to a patient or physician." The question can be phrased in a variety of ways to identify a range of bad service experiences in different settings. The respondent is asked to describe the situation and provide specific details. After a sufficient number are collected, the incidents are grouped into similar categories. The purpose is to identify common patterns of poor service behaviors. For example, one study of employee responses to service incidents in retail settings found 3 primary categories of especially good and bad service performances: (1) how employees responded to service failures, (2) how employees responded to special needs and requests of customers, and (3) unprompted and unsolicited employee responses.[15] From those 3 categories, 15 common situations were identified for which service scripts could be developed. When developing scripts, the problem should be easily described in a scenario. This means that key elements can be presented simply and clearly in a short paragraph or so. The problem itself should be solvable using a standardized and structured procedure where a single series of actions will result in consistently positive outcomes. The scripted situation should also not be trivial. A good rule of thumb is that scripts can be developed for situations with a large potential impact on patient safety or a pharmacist's professional image.

The next step is to elicit the structure and content of scripts. The purpose is to duplicate the best-known methods for handling service situations derived from experience and research. In most cases, experienced pharmacists and technicians should be involved to share their expertise. Ideally, individuals who provide and receive the services should be solicited. For instance, physicians and patients might be consulted about how to best deal with drug interactions. Published literature should also be consulted if needed.

Developing the structure and content of scripts can be a valuable exercise in itself because the process can elicit insight and understanding into the behaviors and roles of those involved. A dialogue can occur to identify and address concerns of those involved about what actions are appropriate and possible in service situations. Individuals who develop scripts may be more likely to understand and accept their professional roles than those who are simply given scripts to act on.

For the phenytoin incompatibility scenario described earlier, the script may direct individuals to utilize *Trissell's Handbook of Injectable Drugs* for details about the incompatibility. For individuals familiar with this reference, further scripted behaviors might not be necessary. However, specific scripted recommendations might be necessary for those unfamiliar with interpreting compatibility tables and the studies upon which they are based. This could lead to additional discussions about incompatibility studies and how to interpret them.

Actual script structure usually consists of either "if, then" statements or decision trees. "If, then" statements follow the pattern of "if a patient presents a prescription for . . ., then you . . . ." Decision trees present a scenario that leads to various choices and outcomes represented by branches of a decision tree. Each action taken in response to the problem leads to consequences that must be identified and valued for their appropriateness in achieving the best outcome.

Once they are developed, scripts should be rehearsed and critiqued prior to performance in real-life situations. If unexpected problems occur, they can be modified as needed. The incompatibility script may continue as follows, "Utilize *Trissell's Handbook of Injectable Drugs* or a comparable resource for specific compatibility information if needed. Notify the nursing unit of the incompatibility and ask if it would be acceptable to utilize a saline solution in place of dextrose. If the nurse agrees, offer to notify the physician and make the recommendation. If the nurse does not agree, then contact the physician directly to consult. Ensure that a new order is written that changes the incompatible combination."

In the end, scripts should be comprehensive enough to help guide the actions of employees, but not so rigid that they constrain the ability of individuals to exercise professional judgment. The phenytoin incompatibility script illustrates this issue by offering some direction but requiring independent decisions by the pharmacist. For instance, the script does not designate who should write the new order in the chart. It only directs the pharmacist to ensure that one is written, leaving it up to the pharmacist to choose the best method. Ideally, the pharmacist should write the order, but the nurse may have better access to the chart and offer to make the change.

The final step is to document the reasoning and evidence for steps in the script. Although often overlooked, documentation of scripted actions can help in training and holding individuals accountable for following scripts. If the reasoning behind the script is solid and detailed, then it is easier to explain and justify why individuals must be held accountable for following a scripted procedure. Documentation can also be used to refresh fading memories about why specific procedures are followed.

When students were asked to develop scripts in the second class exercise, 2 primary educational benefits were seen. One was that students were forced to explicitly delineate the steps needed to resolve a problem and justify the procedure to critics. This required many to think about some routine practice behaviors for the first time. A second benefit resulted during the online critiques of scripts that occurred between students. Those who provided superficial or simplistic scripts were challenged by classmates and asked for further clarification of the scripts. Others shared war stories about similar situations that either justified or refuted the proposed scripts. When the class was over, a list of scripts were given to all students for their use. Ideally, students should have acted out the scripts in role playing exercises, but this was not possible given the course was provided on the Web.

DISCUSSION

The educational value of service scripts lies in the way they simplify and standardize seemingly complex situations for students. This is accomplished by explicitly defining all tasks associated with a situation and coming up with an agreed upon series of steps in response. As scripts are learned and practiced, pharmacy students can demonstrate their mastery of scripts by their ability to apply them to the appropriate situations.

This teaching method can be utilized at almost any stage of the pharmacy educational process. Its application depends a great deal on the complexity of the problem presented in the scenario. Looking at Table 1, it is clear that technical expertise might be required to deal with some of the situations. For instance, first-year students may not be able to effectively deal with complex pharmacotherapy scripts, but they may be able to develop scripts for basic patient-related activities (patients who cannot pay for their medicine, incorrectly dispensed medicines).

One way to utilize scripts is to identify situations from Table 1 that pharmacy graduates need to be able to effectively resolve prior to graduation. If faculty members are comfortable that all graduating students know how to successfully address these scenarios, then utilization of

Table 1. Service Script Situations

Practice Problems
   Angry patients or physicians
   Patients who cannot pay for their medicine
   Non-formulary medicine requests
   Prior authorization notifications
   Complaints about drug prices
   Illegal prescriptions
   Suspect controlled drug prescriptions presented after
     a physician's office closed
   Chemotherapy spills
   Incorrectly dispensed medications

Clinical Problems
   Patients with renal or hepatic impairment
   Patients with penicillin or other drug allergies
   Patients with drug interactions
   Nurses who call with an IV incompatibility
   Requests to crush medicines to administer through
     a nasogastric tube
   Therapeutic substitutions
   Dosing drugs with narrow therapeutic window

Managerial Problems
   Technician absences and tardiness
   Unprofessional behavior of coworkers
   Stealing by coworkers
   Delegating tasks to subordinates
   Giving formal reprimands
   Dealing with incidents of sexual harassment
   Firing unproductive workers
   Frequent employee complaints
   Handling different types of difficult employees

scripts may be unnecessary. However, if deficiencies are suspected, then courses, laboratories, and advanced practice experiences can be identified and used to teach scripted behaviors. For example, scripts for handling chemotherapy spills might be dealt with in a pharmaceutics laboratory, illegal prescriptions could be addressed in a law class, and how to give formal reprimands handled in a management class.

Alternatively, individual faculty members could utilize script development in conferences or break out sessions to reinforce course learning objectives. A law instructor could have students develop scripts to deal with grey areas of the law to encourage discussions about potential consequences of various courses of action. A marketing professor might have students develop scripts on handling dispensing errors to illustrate key concepts in services marketing and consumer behavior. In large classes,

students could pair up to practice scripts with each other. Students could also be asked to perform scripts in front of the class.

The expectations of student performance are likely to depend on the purpose for which the scripts are being used. Faculty members who use scripts to encourage thoughtful discussion about course concepts might be satisfied if good conversations result. Those who use scripts as a measure of competency will need to clearly identify acceptable and unacceptable scripted behaviors. For instance, students who counsel patients according to the Indian Health Service counseling script may be held accountable for asking the script's 3 key patient medication questions to be judged competent.

CONCLUSION

Good service scripts can help pharmacists achieve many of the elements of quality specified by Donabedian.[16] They can improve efficacy, the ability of students to provide the best care to patients, by training them using the best evidence available. They can also help enhance effectiveness, the capacity to provide excellent care in real practice situations, by permitting students to adapt scripts to their individual practice situations. Efficiency, the ability to provide cost effective care, can be realized by showing students efficient ways of providing services that achieve the best patient outcomes. Finally, acceptability of services to patients can be enhanced by soliciting patient feedback when developing and altering scripts.

Service scripts are not a substitute for other teaching methods such as problem-based learning, lectures, or clerkship experiences. Much of the knowledge and skills needed by pharmacists are better learned by other methods. Service scripts are simply an additional educational tool to ensure competence in specific tasks and situations. The use of service scripts in pharmacy education is based upon the assumption that there are specific routine practices that differentiate between good and bad pharmacists. If pharmacy students and novice pharmacists can develop habits and routines based upon the best available evidence, they can provide better professional services.

Service scripts can also increase the confidence of pharmacy students to engage in professional activities. Scripts can guide students to take on difficult tasks until they become familiar and successful with them. As students succeed in basic tasks, they can gain the confidence to complete more complex ones. For instance, a new pharmacist who successfully resolves a therapeutic problem in a phone call to a physician will be more likely to call physicians about more complex problems in the future. On the other hand, students and new pharmacists who are

not properly trained are more likely to fail at tasks and become embarrassed. This can hurt their confidence to engage in professional behaviors and cause them to adapt with their own, less-appropriate scripts, such as making the excuse that they are too busy, blaming supervisors for not giving them enough time, or procrastinating.

Pharmacy educators can use scripts to ensure that students understand their roles in practice settings and help them develop strategies for fulfilling them under difficult practice conditions. If widely adapted to pharmacy education, the potential for articles like "Danger at the Drugstore" can be diminished.

ACKNOWLEDGEMENTS

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