

Prioritization of online instructor roles: implications for competency-based teacher education programs

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(Received 18 December 2008; final version received 5 August 2009)

Online instructors need to take on a multi-dimensional role and to be an effective online educator they are required to possess a varied and wider range of competencies. Preparing teachers for online education involves preparing them for a wide variety of roles and developing related competencies. However, the extent of emphasis required to be placed on each of these roles or competencies during a teacher training program may vary according to its culture and the context. The investigation reported in this article obtained expert opinions with regard to the priority and criticality of eight online instructor roles identified in earlier research on online education. Pedagogical roles received the highest priority by the respondents, followed by professional, evaluator, social facilitator, technologist, advisor, administrator, and researcher roles. These results have implications for teacher education and further research pertaining to the context in India.

Keywords: instructor competency; online learning; teacher preparation

Introduction

Many teachers regard face-to-face communication as a preferred mode for teaching–learning, in spite of the dramatic progress taking place in online education. While online communication rarely makes emotions and gestures as explicit as they would be in a face-to-face context, it does have the potential for people to converse with intensity, depth, and meaning. Klein, Spector, Grabowski, and de la Teja (2004), while developing competencies for online instructors, re-examined the competencies for face-to-face settings and came to the conclusion that competencies for online instructors were not substantially different from those in face-to-face settings at a high level of abstraction. This may also imply that certain levels of equivalence exist between the instructors involved in these two modes of education. In other words, the competencies and roles required to teach in an online environment are not fundamentally different from those for teaching in a face-to-face situation. For example, listening skills are important in both contexts. However, the significance and demonstration of these competencies may vary according to the context or the roles one is assumed to undertake while teaching. That is to say, that how a teacher listens effectively in different contexts may require different skills.

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In earlier studies, several researchers emphasized validating both instructor competencies and roles for effective job performance (Dennis, Watland, Pirotte, & Verday, 2004; Egan & Akdere, 2005; Thach, 1994; Thach & Murphy, 1995; Varvel, 2007; Williams, 2003). Darabi, Sikorski, and Harvey (2006), on the other hand, validated tasks and competencies of distance education instructors. Assuming that the indicators chosen by earlier researchers for validation might have implications for competency-based teacher education programs in India, different perspectives on role-competency linkage and other aspects of competencies were studied and are presented next. While the specific goal is to better prepare teachers in India for distance education, the competencies and perspectives we examined are broadly applicable in other cultures and contexts.

Study purpose

The purpose of this study was to explore the research literature pertaining to online instructor competencies that might prove useful in developing training and curricula for online teachers in India and elsewhere. An attempt was made to integrate the most reliable findings from previous studies and conduct a small-scale validation of an integrated set of competencies focusing specifically on the roles of online instructors likely to be pertinent to the context in India, Indonesia, and other places at the initial stages of developing programs and curricula for online instructors. The first author of this article is most familiar with the context and culture in India. The second author has been working with Universitas Terbuka in Indonesia in this area for the last three years.

Competency attributes

Different insights were noticed in terms of representing the construct *competency* within a range of higher or lower order constructs. For instance, from a view point of teacher education programs, Hall and Jones (1976) considered competencies to lie between goals and objectives. Goals indicate the broad outcomes of a competency-based education program, while the objectives are more specific expected learning outcomes. Hence, in this continuum, competencies are more specific than goals, sub-competencies more specific than competencies, and objectives more specific than the sub-competencies (Figure 1).

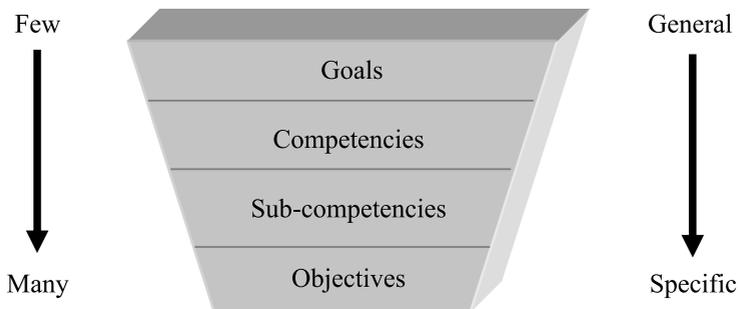


Figure 1. Competencies' hierarchy in teacher education program.

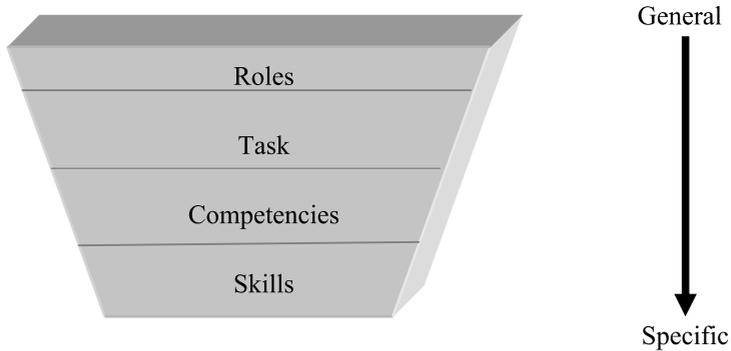


Figure 2. Ordinate of competencies during task analysis.

Bawane (1999) adopted the ordinates shown in Figure 2 to conduct task analysis to identify teacher competencies. According to this analysis, teacher roles can be broken down into tasks, tasks into competencies, and each competency into a related group of specific skills.

The competency model propagated by the International Board of Standards for Training, Performance and Instruction (IBSTPI, 2007), characterizes competencies as those when grouped can be placed within a domain or area of activity and when further branched can be stated as performance statements. In other words, a domain is a grouping of related competencies and a competency is a grouping of related performance statements (Figure 3).

There is some similarity in these three hierarchies that is relevant for competency-based teacher education programs. By integrating these components, we developed a more general framework, as shown in Figure 4.

It is evident that to ensure that a teacher education program is relevant, the components to be validated include goals, training inputs, roles, tasks, competencies, skills, objectives, and specific performance statements. In other words, priority and criticality rankings obtained from experts on one or more than one of these components can provide guidelines for the design and development of an efficient competency-based teacher education program. In the present study presented next, an effort was made to obtain priority rankings of the roles of online instructors.

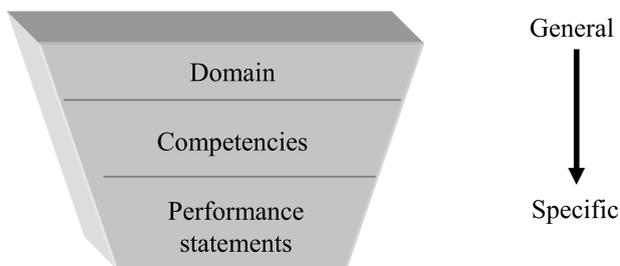


Figure 3. Competencies' representation by instructional designers.

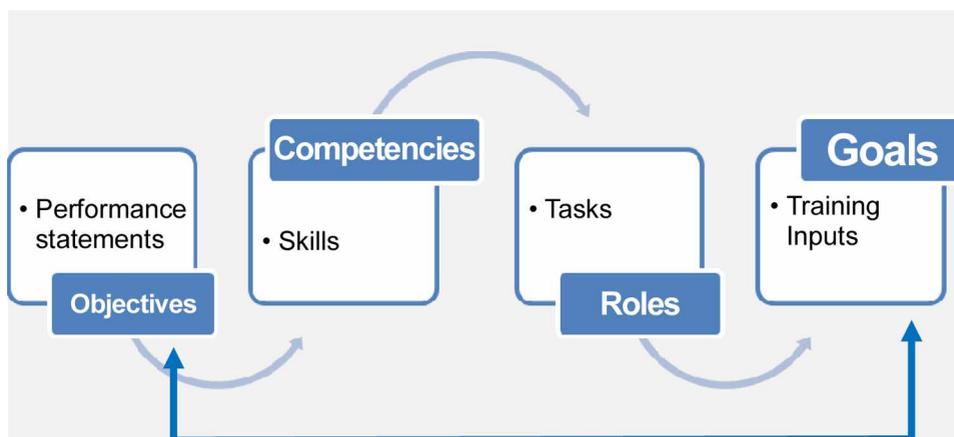


Figure 4. Teacher education framework.

The present study

In the present study an effort was made to prioritize the identified online instructor roles in order to draw suitable implications for teacher education programs. Initially, the roles performed by online instructors were derived from earlier research studies, wherein attempts were made to enlist and categorize online instructor competencies and roles. The criteria adopted for selecting these studies were:

- a focus on competencies and roles related to online instructors or distance education;
- publication in a reliable source such as a reputable journal like *Distance Education* or *Educational Technology Research and Development*;
- a significant number (e.g., 10 or more) of other articles referred to these studies.

In the following section, a summary of the competency categories defined by researchers is presented.

Competency categories

Researchers represented the construct *competency* at different levels and adopted different approaches to classify or categorize competencies. Some researchers classified them on the basis of their context of utilization or roles likely to be performed, while others focused on the nature of skill or level of proficiency as the key to classification. The earliest classification found was by Houston and Howsam (1972), who clustered the competencies as cognitive, affective, performance, consequence or product, and explorative or expressive. UNESCO (2005), in its framework for information and communication technology (ICT) in teacher education, recommended the following four competency areas:

- (1) Content and pedagogy – refer to instructional practices of teachers and their knowledge, that require them to apply ICT for teaching and learning.

- (2) Collaboration and networking – utilize the communicative potential of ICT to extend learning beyond the classroom for development of new skills.
- (3) Social issues – understand legal and ethical codes, and use ICT for the promotion of a healthy society.
- (4) Technical issues – establish technical proficiency and support ICT integration. (p. 12)

Salmon (2000) grouped the competencies for e-moderators into five categories: (a) understanding online process, (b) technical skills, (c) online communication skills, (d) content expertise, and (e) personal characteristics. Reid (2002), after examining the classifications by earlier researchers, listed over 500 online tutor competencies and sorted the competencies into technical knowledge, content expertise, process facilitation, evaluation, and course management. Competency areas for asynchronous instruction were listed by Shank (2004), who based on the inputs derived from the instructional theories, research, and personal experiences grouped them into five areas: (a) administrative, (b) design, (c) facilitation, (d) evaluation, and (e) technical. According to Dennis et al. (2004), the different types of competencies that support an online instructor are (a) pedagogical, (b) communicational, (c) discipline expertise, and (d) technological.

IBSTPI made a series of attempts to revise standardized competencies for instructional designers. IBSTPI initially distributed the competencies into the following domains: (a) professional foundations, (b) planning and preparation, (c) instructional methods and strategies, (d) assessment and evaluation, and (e) management. These competencies were globally validated through a three-year study involving extensive literature reviews, numerous focus group discussions, and large-scale international surveys (Klein et al., 2004). This list was subsequently updated and the latest model has these competencies placed in four domains: (a) professional foundation, (b) planning and analysis, (c) design and development, and (d) implementation and management. Further, within each domain the competencies have also been distinguished as *essential* and *advanced*. The essential competencies are requirements expected to be exhibited in every instructional designer, while the advanced competencies are for specialists or the most experienced and expert designers (Richey et al., 2005). IBSTPI conducted a subsequent study to update its instructor competencies using the same approach and competency model, as noted earlier.

Some researchers (e.g., Varvel, 2007) differentiated competencies as being knowledge- or performance-based. Varvel also argued that many competencies are preferred attributes rather than core requirements (similar to the IBSTPI *essential* and *advanced* distinction). Varvel used the terms *competent* and *exemplary* for instructors who exhibited different levels of competence. The various categorizations of the competencies are provided in Table 1.

From the above synthesis of competency categorizations, it is noted that online instructors are required to possess a diverse set of competencies and their extent of utilization relies on the context or role they are required to perform and also the kind of resources and support available. For instance, provision of separate administrative and technical staff in an institution will minimize the number of roles an online instructor is generally expected to undertake. The categories in Table 1 project the kind of roles an online instructor is likely to perform.

Table 1. Categorization of competencies.

| Researcher/s | Categories |
|---------------------------|---|
| Houston and Howsam (1972) | Cognitive; Affective; Performance; Consequence/product; Explorative |
| Salmon (2000) | Understanding process; Technical skills; Online communication skills; Content expertise; Personal characteristics |
| Reid (2002) | Technical knowledge; Content expertise; Process facilitation; Evaluation; Course management |
| Dennis et al. (2004) | Pedagogical; Communicational; Discipline experts; Technological |
| Klein et al. (2004) | Professional foundations; Planning and preparation; Instructional methods and strategies |
| Shank (2004) | Assessment and evaluation; Management |
| Richey et al. (2005) | Administrative; Design; Facilitation; Evaluation; Technical |
| | Professional foundation; Planning and analysis; Design and development; Implementation and management |

Online instructor roles

The term *role* as defined by *Webster's Dictionary* is a function or position or a part played by an actor. Researchers have outlined a number of roles for online instructors. Roles involving pedagogical, social, managerial, and technical tasks are often indicated for online moderators (Berge, 1995; Wiesenbergs & Hutton, 1996). In addition to a social role, Gold (2001) identified organization and intellectual roles as fundamental for e-moderators. The organizational role, for example, is associated with setting an agenda for a discussion, which essentially involves establishing objectives, framing the timetable, and setting rules for the discussion. The social role involves creating a friendly environment by sending welcoming messages, using a personal tone, and providing immediate and constructive feedback. As an intellectual, the moderator is expected to focus discussions on crucial points, probe student responses, synthesize, summarize, and help students formulate themes associated with learning activities and resources.

From a broader view, an international group of about 30 distinguished researchers and experienced practitioners met in Windermere, UK, for three days and made a serious effort to describe roles for online instructors (Goodyear, Salmon, Spector, Steeples, & Tickner, 2001). This meeting was jointly sponsored by the University of Lancaster and IBSTPI. The roles for online instructors identified there were (a) process facilitator, (b) adviser/counselor, (c) assessor, (d) researcher, (e) content facilitator, (f) technologist, and (g) designer and manager/administrator. A few other roles such as meta-cognition facilitator, resource provider, and co-learner, were identified by Dennis et al. (2004). They defined 11 online tutor roles as essential in a distance or blended learning environment, and then classified them as central roles (related to interaction) or peripheral roles (previous to or after central interactions). The central roles associated with the interactions were (a) content facilitator, (b) meta-cognition facilitator, (c) process facilitator, (d) advisor/counselor, assessor (formative and summative), (e) technologist and resource provider. The peripheral roles were (a)

manager/administrator, (b) designer, (c) co-learner, and (d) researcher. It should be obvious to the reader that there is much overlap among these various accounts of instructors' roles and competencies; we derived a consolidated and synthesized set of competencies from these studies and used that as the basis for the current study (see Table 2).

Aydin (2005) adapted the list prepared by Goodyear et al. (2001) from the perceptions of online mentors, and then provided additional roles such as content expert, instructional designer, and material producer. Four specialist roles for instructional designers were identified: analyst, evaluator, e-learning specialist, and project manager and subsequently elaborated in the IBSTPI competencies (Richey et al., 2005). A similar categorization is found in Varvel (2007) based on an integration of the Illinois State Board of Educational Professional Teaching Standards with the National Educational Technology Standards for Teachers. Similarly, Berge and Collins (2000) cited these roles as specific to online moderators: facilitator, manager, filter, expert, editor, discussion leader, marketer, and helper. In sum, there has been substantial investigation of online instructor roles and competencies, and there is a great deal of agreement and overlap in these studies.

Table 2. Online instructor roles.

| Researchers | Roles |
|--------------------------------------|---|
| Thach and Murphy (1995) ^a | Instructor, instructional designer, technology expert, technician, administrator, site facilitator, editor, librarian, evaluation specialist, graphic designer |
| Wiesenberg and Hutton (1996) | Moderator, pedagogical, social, managerial, technical |
| Gold (2001) | Organization, social, intellectual |
| Goodyear et al. (2001) | Process facilitator, advisor/counselor, assessor, researcher, content facilitator, technologist, designer, manager/administrator |
| Williams (2003) ^a | Administrator manager, instructor/facilitator, instructional designer, technology expert, site facilitator/proctor, support staff, librarian, technician, evaluation specialist, graphic design, trainer, media publisher/editor, and leader/change agent |
| Dennis et al. (2004) | Content facilitator, meta-cognition facilitator, process facilitator, advisor/counselor, assessor, technologist, resource provider, manager/administrator, designer, co-learner, researcher |
| Aydin (2005) | Content expert, process facilitator, instructional designer, advisor/counselor, technologist, assessor, material producer, administrator |
| Egan and Akdere (2005) ^a | Administrative manager, instructor/facilitator, instructional designer, technology expert, site facilitator/proctor, support staff, librarian, technician, evaluation specialist, graphic designer, trainer, media publisher/editor, leader/change agent, systems expert/consultant |
| Richey et al. (2005) | Analyst, evaluator, e-learning specialist, project manager |
| Varvel (2007) | Administrative, personal, technological, instructional design, pedagogical, assessment, social roles |

^aThese studies were not included for compiling roles as they were identified later.

Comprehensive list of roles

To arrive at a comprehensive list of online instructor roles for the present study, the list of competency categorization stated by researchers from Table 1 and roles mentioned in Table 2 were integrated and duplicates and overlapping categories eliminated. This resulted in a set of eight comprehensive roles:

- (1) Professional (role)
 - Comply with ethic and legal standards
 - Communicate effectively
 - Undertake efforts to update knowledge
 - Demonstrate commitment and favorable attitude
- (2) Pedagogical
 - Design instructional strategies
 - Develop appropriate learning resources
 - Implement instructional strategies
 - Facilitate participation among students
 - Sustain students' motivation
- (3) Social
 - Maintain a cordial learning environment
 - Resolve conflict in an amicable manner
 - Refrain from undesirable behaviors
 - Promotes interactivity within the group
- (4) Evaluator
 - Monitor individual and group progress
 - Assess individual and group performance
 - Evaluate the course/program
- (5) Administrator
 - Manage the time and course
 - Demonstrate leadership qualities
 - Establish rules and regulations
- (6) Technologist
 - Access various technological resources
 - Select the appropriate resource for learning
 - Develop different learning resources
 - Suggest resources to the students (resource provider)
- (7) Advisor/counselor
 - Suggest measures to enhance performance
 - Provide guidance based on student needs
- (8) Researcher
 - Conduct research on classroom teaching
 - Interpret and integrate research findings in teaching.

Priority ranking of roles

To obtain the priority ranking of the identified roles, a questionnaire was developed and sent to a group of experts ($n = 30$) (17 – USA, 10 – India, 2 – Sri Lanka, and 1 – Australia). The criteria for selecting these experts were:

- they had at least two years' experience in the related field;
- they were nominated by senior experts with more than five years' experience;
- they were presently teacher educators associated with a university; and
- they were willing to participate.

The prepared ranking tool was sent via email to all the experts; 21 of 30 (70%) responded.

The instrument

The survey instrument used was a ranking tool, which consisted of two sections. In the first section, instruction was provided to the experts regarding the purpose of obtaining their opinion and the procedure for providing their response. The experts were instructed to rank each role by allotting a numerical rank ranging from 1 to 8, in the order of significance for effective teaching, with the highly prioritized role receiving rank 1, followed by the rest on priority. The competencies for each role were also provided to define each role. They were specifically instructed not to provide the same rank to any two or more roles. Those who provided such responses were asked to reconsider and reconfirm their responses. The experts were also asked to indicate if there was a need to include additional roles apart from those listed. However, no additional roles were suggested.

Analysis of data

The response obtained from each expert was tabulated and the frequency of ranks and percentage of responses obtained for each role were determined. The frequency and percentage scores received for each of the online instructor roles are provided in Table 3.

Data results

Table 3 indicates the frequency and percentage of responses obtained for each role with respect to each rank. For instance, the professional role received rank 1 from two experts, rank 2 from seven experts, rank 3 and rank 4 from three experts each, rank 5 from one expert, rank 6 from two experts, rank 7 from one expert, and rank 8 from two experts. The data were analyzed with regard to the average rank score for each role obtained using the following formula:

$$\text{Average rank score} = [(n_1) * 1 + (n_2) * 2 + (n_3) * 3 + (n_4) * 4 + (n_5) * 5 + (n_6) * 6 + (n_7) * 7 + (n_8) * 8] / 21$$

Table 3. Frequency and percentage of ranks for each role.

| Role | Rank frequency and percentages | | | | | | | |
|---------------|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Professional | 2 (9.52) | 7 (33.3) | 3 (14.28) | 3 (14.28) | 1 (4.76) | 2 (9.52) | 1 (4.76) | 2 (9.52) |
| Pedagogical | 18 (85.71) | 1 (4.76) | 1 (4.76) | – | 1 (4.76) | – | – | – |
| Social | – | 5 (23.8) | 2 (9.52) | 4 (19.04) | 5 (23.80) | 1 (4.76) | 3 (14.28) | 1 (4.76) |
| Administrator | – | 1 (4.76) | 6 (28.57) | 1 (4.76) | – | 5 (23.80) | – | 8 (38.09) |
| Evaluator | – | 5 (23.80) | 5 (23.80) | 3 (14.28) | 3 (14.28) | 1 (4.76) | 2 (9.52) | 2 (9.52) |
| Technologist | 1 (4.76) | 3 (14.28) | 3 (14.28) | 3 (14.28) | 2 (9.52) | 4 (19.04) | 5 (23.80) | – |
| Advisor | – | – | – | 6 (28.57) | 5 (23.80) | 5 (23.80) | 3 (14.28) | 2 (9.52) |
| Researcher | – | – | 1 (4.76) | 1 (4.76) | 3 (14.28) | 3 (14.28) | 6 (28.57) | 7 (33.3) |

Note: The numbers in parentheses indicate the percentage of responses.

Table 4. Average rank score for each role.

| Professional | Pedagogical | Social | Administrator | Evaluator | Technologist | Advisor | Researcher |
|----------------------|-------------|----------|---------------|-----------|--------------|----------|------------|
| 3.67 ^a | 1.33 | 4.38 | 5.62 | 4.19 | 4.62 | 5.52 | 6.57 |
| 2^b | 1 | 4 | 7 | 3 | 5 | 6 | 8 |

^aAverage rank score obtained using the formula.

^bPriority rank.

where n_1 is the frequency obtained for rank 1, n_2 the frequency obtained for rank 2, and so on.

The average rank obtained for each role is indicated in Table 4.

Table 4 shows that the pedagogical role received the highest priority, followed in order by the professional, evaluator, social, technologist, advisor, administrator, and researcher roles.

Discussion and implications

This investigation reveals that amongst the identified set of roles the pedagogical role received the most priority, followed by the professional, evaluator, social, and technologist roles. The development of competencies and skills of teachers should be emphasized somewhat in accordance with such a ranking. In other words, online instructors are still teachers – pedagogues – first and foremost, and the skills and competencies depicted in Figure 4, for example, remain highly relevant to their training and effective performance. Table 5 depicts training objectives to support the pedagogical role.

Table 5. Training objectives for pedagogical role.

| Competencies | Objectives |
|--|--|
| | The teachers would be able to: |
| 1. Design instructional strategies | 1.1 Identify students' learning needs 1.2 Define student learning outcomes 1.3 Identify and sequence the learning content 1.4 Structure and sequence the e-tivities |
| 2. Develop appropriate learning resources | 2.1 Identify the learning resources 2.2 Select the appropriate resources 2.3 Develop resources if unavailable |
| 3. Implement instructional strategies | 3.1 Initiate the learning activity 3.2 Integrate resources while conducting the activity 3.3 Demonstrate effective presentation skills |
| 4. Facilitate participation among students | 4.1 Encourage students to participate and contribute 4.2 Promote social interaction 4.3 Facilitate collaborative efforts |
| 5. Sustain students' motivation | 5.1 Assist students to be self-directed 5.2 Reinforce students' contributions 5.3 Provide effective feedback |

Keeping these objectives in mind, a curriculum developer could then select appropriate training areas and design appropriate activities to develop the specific targeted competencies. Unfortunately, many of those who teach curriculum development at the university level fail to take seriously the link between roles, tasks, and competencies, which has been the thrust of the research on which this study is based. In India and elsewhere, there is a real opportunity to base curricula on specific roles and competencies, which is how we hope this study and review of instructor competencies will be used.

Competencies can be considered as standards to develop, qualify, distinguish, and/or recognize individual performance (Spector et al., 2006). Further, the construct *competency* may be referred to as the 'ability to do' rather than the 'ability to demonstrate knowledge' as emphasized by Houston and Howsam (1972). Nevertheless, the definition given by Hall and Jones (1976) is also acceptable, wherein they defined a competency statement as 'a description of those performances that are based on the acquisition, integration, composite building and application of related skills and knowledge' (p. 31). Another criterion of achieving a certain level of mastery with regard to fairly challenging or complex tasks can also be adopted to assess competence (Spector, 2007). According to Varvel (2007), a competent individual is 'one who effectively and efficiently accomplishes a task [instructs] in a given context [digital distance education] using appropriate knowledge, skills, attitudes, and abilities that have adjusted and developed with time and needs' (§ 8). It is thereby recommended that competency attributes for teacher education programs be perceived more from a functional and development point of view.

Keeping in view the hierarchy of roles obtained via ranking in the present study, it is recommended that the teacher training programs be designed or sequenced in phases, by initially laying extended focus on roles receiving high priority, followed by those receiving low priority. Hence, if one considers conducting the teacher training program in two phases, the first phase may be confined to the development of competencies related to the high priority roles such as pedagogical, professional, evaluator, social, and technologist. The subsequent training may focus on the less preferred roles, such as being an administrator, advisor, and researcher. Yet, one must also take into account that this distribution or sequence may not be appropriate for training teachers in varied contexts. Aydin (2005), who obtained Turkish mentors' perception of roles and competencies to teach effectively in an online environment, showed that the assessor role received the most attention since the participants perceived this role to be most essential and as being performed the most while teaching. The other roles (facilitating the learning process, being a content expert, designing online courses, providing technical support) were perceived as essential roles for successful teaching, but teachers were not performing these roles very often. The online mentors, however, were not sure whether they should be dealing with administrative duties. Interestingly, they seldom performed the technologist and the process facilitator roles while they almost never performed the instructional designer and the content expert roles. The advisor/counselor role was not considered essential and they seldom performed this role. Further, Williams (2003) found that the role with most competencies rated as very important were instructional designer, instructor/facilitator, trainer, leader/change agent.

Darabi et al. (2006), after validating the tasks performed by instructors in terms of their importance, found that the top five tasks that received high rating were review of the course for adequacy, assess learner's attainment of learning objectives, make

changes as needed to maintain course accuracy, maintain expertise in subject area, and maintain record-keeping related to course activities. Only two of these tasks – assess learner’s attainment of learning objectives and maintain expertise in subject area – fall within the priority roles of evaluator and professional expert of the present study.

Competencies related to social roles (establishment of community, interactivity, working in groups, communication, and support) were thought to be critical for online teaching (Singleton, 2004). According to students, the seven core elements for effective online teaching are adapting to student needs, using meaningful examples, motivating students to do their best, facilitating the course effectively, delivering a valuable course, communicating effectively, and showing concern for student learning for effective online teaching (Young, 2006). Earlier research emphasized that instructional and assessment strategies still reflect pedagogy and assessment to be priority areas of competence for online instructors (Gaytan & McEwen, 2007; Levin, Ye, & Robbins, 2006; Xin & Feenberg, 2006; Yeh & Lahman, 2007).

Some disagreement among researchers regarding the prioritization of distance education competencies was also revealed by Egan and Akdere (2005). They compared the top 10 competencies of their study with those identified by Thach (1994) and Williams (2003) and indicated that the respondents in their study emphasized technology-related competencies while the others emphasized communication competencies as important. In another study, Williams (2003) found that interpersonal and communication skills appeared in all roles and sub-roles and dominated the top competencies in the studies of Thach (1994) and others. Subsequently, Thach and Murphy (1995) found that competencies related to communication and technical skills received top priority. According to them, the top five competencies used most frequently by all roles were interpersonal communication skills, English proficiency, collaboration/teamwork skills, writing skills, and planning skills.

Learning as a process is dynamic and continuous. Consequently, preferences with regard to instructor roles and competencies may change and vary with respect to time and advancements made in technology. Berge (2008) has argued that due to the emergence of 3D virtual worlds, such as a multi-user virtual environment like *Second Life*, earlier validated roles will have to undergo transition in order to meet the demands of new technologies and learning environments. According to Berge, learning in virtual worlds is driven by a move toward informal, collaborative, reflective learning, with user-generated content. Hence, it is recommended that studies similar to the present study are required to be conducted on a regular basis to validate and update the competencies and roles of online instructors.

Conclusion

Among the studies reviewed, it is seen that the focus has largely been on determining the online instructor competencies and only a few have gone further to distribute the evolved list of competencies in terms of their level of expertise (Aydin, 2005; Dennis et al., 2004; Richey et al., 2005; Varvel, 2007). This calls for more investigation on the kind and level of expertise required among instructors to perform their roles. Furthermore, varied ratings and ranking criteria can be adopted to affirm study findings. For example, Aydin (2005) obtained the expected level of necessity and possession of the roles and competencies on a five-point scale, while IBSTPI (2007) validated their set of identified competencies and performance statements based on the ratings received in terms of their criticality for instructors in face-to-face and online settings.

Williams (2003) obtained the rating of the competencies on the scales of criticality and frequency, and Thach and Murphy (1995) identified the top competencies on the basis of their importance and frequency of utilization. Attempts could also be undertaken to compare the perceptions and ratings in this regard, of students and faculty.

On the whole, the study and results imply that such rankings can assist in providing guidelines for developing efficient and relevant competency-based teacher training programs in terms of the extent and nature of the content, training inputs, and also the time period essential for the development of each role. It is our intent to use these findings to inform curricula and training programs being developed for online instructors in India, Indonesia, and elsewhere.

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