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Collaborative Online Course Development: Facilitation of Multi-Dimensional Teaching and Learning

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Abstract

The authors focus on how instructors and administrators collaborate in order to facilitate multi-dimensional learning and teaching through an online teacher education course. Based on the premise that demonstrating advancement of teaching is related to advances in information sciences and technology, we created and evaluated features of an entirely online special education course. The online course was designed as a joint effort of a team of special education instructors and instructional designers from several American universities, and has been operational for 10 consecutive years. Within an action research framework, we describe recent changes in the course content and online teaching practices. The researchers conducted comparative analysis of the course content and teaching practices demonstrated in the 7 online introductory special education course sections taught over 3 academic years (during spring and fall semesters). The purpose of this paper is to explain how instructors and administrators collaborate in order to facilitate multi-dimensional learning and teaching through an online teacher education course Orientation to Education of Exceptional Children (OEEC). The findings revealed that there is a need for ongoing revisions of the online teaching practices and course content. Final conclusions relevant for the further online course development and improvement of the learning and teaching are offered.

Key words: action research; online course; teacher education.

Introduction

Facilitation of multi-dimensional learning and teaching through an online teacher education course is a topic of a great importance in the area of online education. Teaching and learning in an online environment is influenced by the course features, such as the topic of instruction and continuous advancements in information sciences and technology. Collaboration between instructors and online designers is an important theme when examining teacher presence online (Wilson & Stacey, 2004; Ko & Rossen, 2010). These researchers emphasized collaboration between experts from various disciplines and experts in the area of the instruction; they raised issues of expertise of course designers and teachers' previous experiences in an online environment. The theme of collaboration is of a great relevance and findings of research studies on the benefits of collaborative planning and development of team-taught coursework must also be considered (Nevin, Thousand, & Villa, 2009).

The advances in information and communication technology are dually important. They are related to the features that are available in online environments, but also to changes in the prior knowledge of and experience with technology that students bring to the course. In addition to continuous adjustment of instruction to the technological demands of students, these technological advances also need to be addressed in course development. The online course, which is in the focus of this research study, was designed as a joint effort of a group of special education instructors and instructional designers from several universities, and has been operational for 10 consecutive years. The course was initially designed for use in an open web environment using hypertext markup language; subsequently, the course was transferred to the WebCT environment and then to the Blackboard system. While maintaining the essential elements of the course (main modules, main study content, assignments, grading rubrics, and activities), the course instructors provided ongoing adjustments to meet the individual student's needs as well as adjustments that are related to new literature, new topics, and changes in educational policy.

The purpose of this paper is to explain the collaborative process on how instructors and administrators facilitate multi-dimensional learning and teaching through an online teacher education course Orientation to Education of Exceptional Children (OEEC).

Theoretical Background

When determining the role of instructor as a facilitator of multi-dimensional learning and teaching in an online environment, we used the system which was first proposed by Berge (1995) and then modified in 2009. This included the following dimensions in an online environment: pedagogical, managerial, social, and technical, each with a varying number of roles. Reviewed research studies that were based on the Berge's system revealed a predominant emphasis on the pedagogical dimensions of instructor that include: course design, professional expertise, computer mediated

communication/feedback, and facilitation of interaction (Liu, Bonk, Magjuka, Lee, & Su, 2005). The more recent studies also emphasize importance of collaboration of instructors, administrators, students, and the community to deliver online instruction (Yang & Cornelious, 2005; Berge, 2009). Moreover, due to the expansion of virtual worlds and other learning environments, Berge (2009) called for a change in the roles of the online course instructor, hence the new roles are informal, collaborative, and should include reflective learning and user-generated content.

Rovai and Hope (2004) report that learning theories promote social constructivism, or learning within a social context. Its feature is active group construction of knowledge, rather than transfer of knowledge, and it additionally provides ideal learning environments for the online classroom. Swan (2004) analyzed research findings on learning effectiveness and its implications for the practice, where learning effectiveness is assured through interaction with content, interaction with instructors, interaction with classmates, and interaction with course interfaces. Furthermore, study by Slagter van Tryon and Bishop (2009) presents theoretical framework based on social information processing and group structure theories that could help instructional designers in examining the social system perceived by the online learner.

In addition to the instructors' role in facilitating learning and teaching, a number of research studies explored ways in which institutional information and communications technology (ICT) support influence successfulness of the online education attempts (Bolliger & Wasilik, 2009; Covington, Petherbridge, & Warren, 2005; Reynolds, Treharne, & Tripp, 2003; Wilson & Stacey, 2004; Zhao & Frank, 2003). A lack of the ICT support is the most frequently mentioned barrier for online teaching in the first decade of the new millennium (Jones & Moller, 2002; Lee, 2001). Nevertheless, there is no sufficient research data on the possibilities for the improvement of expectations and effectiveness of ICT provision and utilization (Reynolds, Treharne, & Tripp, 2003). Zhao and Frank (2003) suggest that teachers need more time to consider what to do with the available ICT resources and materials. Covington, Petherbridge and Warren (2005) provided an overview of faculty support for transitioning to online teaching. They reported the importance of peer work on the tasks and technical support for teachers. The more recent study by Bolliger and Wasilik (2009) lists student-related, instructor-related, and institution-related influences on online teaching. The authors notice that technology difficulties or inadequate access to technology and tools influence online teaching satisfaction. In addition to the available technical support, the importance of training opportunities and administrative support by departments is also described (Covington, Petherbridge, & Warren, 2005). Administrative support for faculty assignment, workload adjustments, salary incentives, and equipment upgrades are also important factors that encourage faculty to move into online pedagogy (Jones & Moller, 2002). Bolliger and Wasilik (2009) found that instructors perceive the workload for online courses as higher than in traditional courses, and this perception greatly influences the development, adoption and delivery of online education.

Some studies in the 1990s have addressed the sensitivities involved when collaborating to deliver online instruction (e.g. technology-savvy support staff collaborating with content-savvy expert instructors). For example, Austin and Baldwin (1991) articulated four important decision points: choosing colleagues or team members; dividing the labor; establishing the work guidelines; and terminating the collaboration. Ten years later, Baran, Correia and Thompson (2011) emphasized the need for online instructors' continuous process of critical reflection and action through which they transform their meaning of structures related to online teaching.

In addition to instructors' critical reflection on online teaching, earlier studies on the development of online courses emphasized that ideological differences must also be discussed (e.g. Paul, 1999). Overall, administrative support (at the chair, dean, and university executive levels) is a vital factor in the continuation of coursework and programs that faculty explorations deem to be viable. Neely and Tucker (2010) describe unbundling of the faculty role which occurs at universities with expansion of online programs. The authors distinguish the role of course instructor or facilitator, curriculum writer and subject matter experts, instructor/graders, academic advisor and instructional designer. Foster Davis, Sauber and Edwards (2011) emphasize the importance of the quality of online programs in higher education and propose the model for developing and improving online programs which includes determinants in five areas. The model suggests: (1) reliability of the organization to perform in a consistent and accurate manner, (2) organization responsiveness in providing assistance, (3) assurance that organization inspires confidence, (4) empathy that implies ability of the organization to provide individualized attention, and (5) tangibles which include appearance of physical facilities, personnel, communications materials and events.

The focus on the organization also addresses university support level impact on the implementation of online learning and teaching that is linked to: faculty development, educational/instructional technologists on campus, online e-learning task force, continuously available helpdesk for students and faculty, library facilities and educational technology lab availability. The recent study by Macdonald and Poniatowska (2011) focused on the development of an online module for academic staff involved in research, scholarship, and curriculum design by use of social learning techniques. The researchers found that the relevance of the professional development depends on its relation to the specific tasks of academic staff employed in online teaching. Academic staff professional development greatly influences quality of online courses and programs.

Consequently, the program reviews from a state department of education and school district administrators provide positive data regarding the online teacher programs. This data influences university decisions on the implementation of hybrid and entirely online programs. Dropout rates are of great importance in college and program reviews. According to the College Completion Data (Complete College America,

2011), at 4-year public colleges at universities in Arizona, freshmen dropout rate for the full time students is 23%. Therefore, the dropout rates are an important element of the online program evaluations. Statistics on dropout rates or a failure to complete a course that is offered online are constantly changing in favor of online courses. In Greenagel (2002) study dropout rates of 70% for e-learning are much higher than for standard instruction in 4-year colleges where the dropout rate is about 15%. Findings of international study by Hershkovitz and Nachmias (2011) indicate that 46% of the students enrolled in the online courses either decelerated their online activity or dropped out the course. However, in interviews with distance education managers and instructional designers, Threlkeld (2006) found that communication, or its absence, was the single most important reason for students' dissatisfaction with an online course. Therefore, communication or its absence may also be a factor for student dissatisfaction with face-to-face instruction (especially if instructors are not accessible or are unresponsive to student questions). In addition, Wang and Newlin (2000, 2002) showed that measures of online course activity, high need for recognition, internal locus of control, and self efficacy were found to be predictive of student success. In contrast, Yair (2007) showed that the students who dropped out (non-completers) reported significantly lower satisfaction with e-learning compared to the students who successfully completed (completers or persistent students) the same e-learning courses but academic locus of control appeared to have no impact on students' decision to drop from e-learning courses. Nistor and Neubauer (2010) recommend easy-to-implement prediction methods for dropouts, which can improve online teaching. The prediction method takes into consideration the indicators of the successful participation such as participation in the presence session, personal introduction, e-mails to the teacher in the first two weeks, total number of messages and total length of the messages.

Methods

This is an action research investigation (Carr & Kemmis, 1986) in a form of self-reflective enquiry that was undertaken by the course instructors and departmental supervisors in order to understand and improve their own teaching practice. The choice of action research as a methodology for the exploration of multi-dimensional learning and teaching facilitation through an online teacher education course is logical. The researchers were course instructors, course observers and members of the initial course design team. Recent changes in the course content and online teaching practices are in the main focus of this action research.

The literature review reveals several studies (e.g. Lamaster & Knop, 2004; Swinglehurst, Russell, & Greenhalgh, 2008) that implemented action research methodology in the study of online teaching. Swinglehurst, Russell and Greenhalgh (2008) used a collaborative action research approach to explore peer observation of teaching within the online environment. Lamaster and Knop (2004) investigated

how instructor of an online course studied, evaluated and amended the instructional environment. The authors collected data from students, teaching assistants and the course instructor by use of several data collection techniques (e.g. student focus group interviews, descriptive student surveys, student feedback, student work and an instructor journal). The applied qualitative research methods and data triangulation confirmed emerging trends and reported central study themes.

According to Stringer (1999), the action research process involves three phases: (1) look; (2) think; and (3) act. This is the form utilized in this particular research. During the first phase the research questions are defined and all of the relevant factors described. The second phase focuses on the gathered data that are interpreted and explained, while issues and problems are emphasized. In the final, third research phase, while judging the worth, possible solutions for problems are formulated. Similarly, Berg (2004) writes that action research procedure involves four stages: (1) identifying the research questions, (2) gathering the information to answer the questions, (3) analyzing and interpreting the information, and (4) sharing the results with the participants. Still, in this research study, we kept in mind that action research is not a research procedure but a series of principles for conducting social enquiry (McTaggart, 1996).

Action Research Themes

In this study we focused on the following action research themes: (1) the role of team work in course design; (2) importance of cooperation between instructors; (3) influence of departmental support on implementing online course changes; (4) influence of technology changes on online course re-design; (5) influence of changes in the field (e.g. research, legislation changes, regulations, policy, textbook edition) on online course re-design; and (6) influence of the course pedagogy on the student achievements in the course.

Qualitative Research Methods

Qualitative research methods were employed. The triangulation of the research findings was conducted by comparing the research findings with the published literature. In addition, three researchers compared their points of view on the research issues addressed in this study. The participants of the action research were: students, instructors, course designers, previous teachers and departmental supervisors.

The OEEC course was taught during regular (Fall & Spring) semesters by the same instructor under the Blackboard platform, which preserves the course content, class discussion threads, assignments and grades in its entirety. The average enrollment for the course was 30 students per semester. We conducted a comparative analysis of the 7 iterations of the same OEEC course taught over a time period of 3 years. Data were organized chronologically and the main trends were sought. This process allowed analytical comparison of the different data forms. The analysis focused on: (a)

changes in the course content; (b) online teaching procedures; (c) discussion board communication dynamics; and (d) teamwork dynamics for assignment completion. It is important to emphasize that communication occurred through the means of email (these email messages were preserved but not analyzed).

Data Collection Techniques

Similarly to Lamaster and Knop (2004), this study collected the following data: individual student work, student discussion forums entries, student group work, emails between students and teacher (e.g. inquires on the course procedures, inquires and comments on the course assignments), emails between previous and current teacher, previous teacher's observations of the course, current teacher's observations of the course, and departmental course evaluations.

Results and Discussion

OEEC is a required course in the College of Education for elementary and special education majors. In addition, OEEC allows students to meet a general studies requirement within social behavioral sciences category. The OEEC course is a general survey course designed to explore major issues in the education of children with special needs. The course also provides information on the current legislation, policies, terminology, and trends in special education. Characteristics of exceptional individuals and the implications for their learning are addressed, and suggestions on effective teaching techniques and strategies for accommodating for student diversity are provided. This practitioner-oriented course required at least two hours of observing a child in at least two different school settings.

Course Objectives included the acquisition of a knowledge base and skills of practical application regarding four key concepts:

- Knowledge of people with exceptional needs which includes identification, appreciation of challenges experienced by people with exceptional needs, their contributions, educational expectations, and programs (with the focus on valuing and personalizing this knowledge);
- Appreciation of the impact of culture upon individuals with exceptional needs and their families (with the focus towards inclusion and inclusive schools in a multicultural society);
- Knowledge of the impact of legislation and litigation upon people with exceptional needs (e.g. laws, policies, guidelines, and issues in serving children with special learning abilities);
- Awareness of the community, state, and national professional and parent organizations that help meet the needs of people with exceptional needs.

Course Assignments were structured by Bloom's Taxonomy (Bloom, 1956; Krathwohl, Bloom, & Masia, 1973) based on the three domains of educational activities: cognitive, affective and psychomotor. The cognitive domain involves knowledge

and the development of intellectual skills, which are divided into six levels: (1) knowledge; (2) comprehension; (3) application; (4) analysis; (5) synthesis; and (6) evaluation.

In lieu of a final exam, capstone experiences of OEEC show application and synthesis levels of Bloom. The course includes the following course assignments: (a) study guides and study guide alternatives; (b) observations; (c) student study team assignments; (d) family centered assignment; (e) participation in a structured class discussions; and (f) extra credit assignments – moderating class discussions; literature review; extra quizzes.

The online discussion met the instructor's goal to provide an informal forum for elaborating on the content of the class which also allowed the instructor to detect potential misconceptions or misunderstandings and thereby make either public or private corrections. The cognitive content of most discussion board topics was related to special education, teaching students with special needs, and advocacy or legal implications. Some of the discussion threads were formed to facilitate communication between students during group work. Exchanges of the participants (instructors and students) mirroring face to face discussions (building on each other's ideas, complimenting contributions, sharing resources) were similar to what researchers reported for a similar introductory special education course in a California university (Nevin, Hood, & McNeil, 2002). Moreover, the item related to as "discussion board thread for the questions which are related to the administrative, technical and other similar course issues" mirrored face to face course announcements in the traditional courses. Finally, the online discussions may have met some emotional and psychosocial needs of the participants (e.g. the 'just venting' messages, messages asking for clarification) which occur in face-to-face classes typically outside of the instructor's hearing range (before or after class and at break time). The fact that several messages were of a venting nature indicates that participants felt a fairly comfortable level of psychological safety to do so which may be related to the way many of the discussion topics were posed - in tones that invited other people's ideas.

Student Outcomes. As presented in Figure 1, student grades were characterized by a skewed distribution that emerged with more As and Bs in all seven sections, which is typical of participants whose instructors design coursework on the principles of mastery learning. Similar results occurred in the California study reported by Nevin et al. (2002). The increased number of incompletes and withdrawals for the participants in the Internet class may be related to the lack of familiarity with the Internet and computer assisted instruction or lack of access. Students who fail do not come to take an online course again. Throughout semesters, student attitudes towards coursework changed and they became more punctual in submitting their work, more technologically competent, etc. Each semester, the grade "incomplete" is offered as an instructor option.

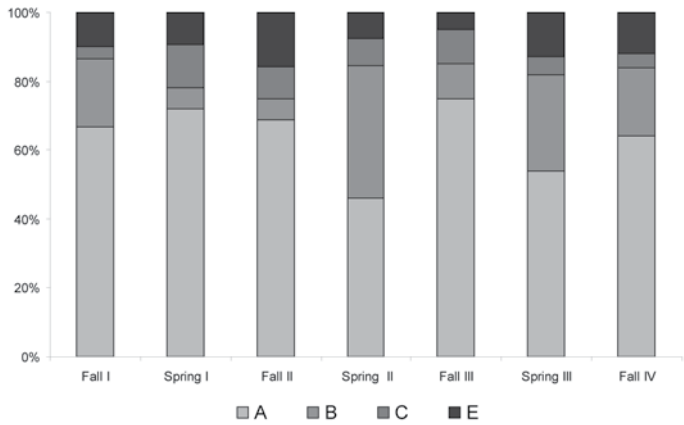

Figure 1. *Grade distributions*

Dropout rates. With a goal to decrease high dropout rates of 23% for freshmen at the college level programs (Complete College America, 2011) and 46% which are characteristic for the online courses (Hershkovitz & Nachmias, 2011), the course was designed in cooperation with colleagues from the two universities at the southwest of United States and cooperation with instructional designers. A team of experts worked on the course development, while additional IT support was assigned for the platform change. The data indicate consistently low dropout rates in the OEEC course (less than 20%) which could be related to the pedagogical approach utilized in this course (e.g. scaffolding the content, additional clarifications under the course announcements, discussion board, and by email).

Students. The course participants included graduate and undergraduate students of various majors and various ages. On average, half of the enrolled students in each semester were education majors.

Instructor. The instructor of record held a Ph.D. in special education from a research university with very high research activity (Carnegie Foundation, 2012) and possessed content area and instructional design expertise. In addition, the instructor possessed experience in teaching undergraduate and graduate special education courses in the regular classrooms. Previous instructor was present in each of the 7 sessions of the online course and served as a topic expert.

Course Structure. The OEEC is a teacher-paced course, organized in two-week blocks where students completed the assignments described above. In addition to textbook readings, lecture content was accessed through lecture notes which students could read at their own pace. Students were encouraged to do their own research and to link observations and their own teaching experiences. Changes in the required textbooks reflected changes in the multimedia materials, moving from completely textbook based resources to web based readings and a DVD supplement for the required textbook.

Class Discussion. There are several types of class discussion board threads contributing with a particular educational value which draws both on the knowledge gained from practical experience and that gained from theoretical insight (Hammond, 2000). This course starts with an introductory biography, which is a desirable element of every online course (Hammond, 2000). In addition to the discussion board thread for the questions related to the course content (representing the "application" and "comprehension" levels of Bloom's taxonomy), there is a discussion board thread for the questions related to the administrative, technical and other similar course-related issues. Over the course of the 7 semesters changes occurred in the number of email exchanges and the type of discussion board inquiries, with a noticeable decrease in the number of technical questions.

Separate discussion board threads were formed for the communication between students related to the group work. In the group work, exchanges between participants (instructors and students) mirrored face to face discussions (e.g. building on each other's ideas, complimenting contributions, and sharing resources). On several occasions students initiated 'face to face' student meetings to discuss the completion of cooperative learning assignments. However, students rarely requested face to face meetings or phone conversations with their instructor.

Effective Teaching Practices. Each semester the instructor of record and students had an access to one of the course designers. On one occasion she noticed that students had a misconception about criterion-referenced assessment. The instructor of record then provided additional materials (and made them permanently available on the web), and adjusted course discussion to reinforce student understanding of the course content. Due dates were adjusted based on religious holidays; reasonable accommodations were made for the students with disabilities and students who were in military service. The instructor also showed flexibility in adjusting for various issues such as due dates, media materials, equivalent textbook materials, and observation assignments.

Student Assessment. The course structure is characterized with an ongoing assessment and evaluation of student work (quizzes and grading content of discussion board postings to assure knowledge and comprehension levels according to Bloom). Four types of assessment are included in the OEEC: (a) course discussion participation, (b) individual papers, (c) individual on-site observations, and (d) group work.

(a) Course discussion participation (application, synthesis and evaluation levels of Bloom). Students are required to participate in all discussions of course-related issues by contributing a minimum of 2 thoughtful messages to each discussion. The first discussion message is in the form of a direct answer to the posed question, while further messages should include reflection on other students' postings.

(b) Individual papers (application and synthesis levels of Bloom, 1956). At one point students must complete an essay quiz or continue to work on the compare-

contrast assignment. When evaluating student work, the instructor noticed that the quality of information included in the compare-contrast assignment and student comprehension improved among the students who continued to work on this assignment.

(c) Individual on-site observations (application and synthesis levels of Bloom). Students were required to arrange their own observation site at a local school. Students who were freshmen or those who were not college of education majors often needed additional help in finding the observation site. Upper division junior and senior students who were education majors were assigned to schools through the office of field placement. Although students tend to ask for direct help from the instructor, it was clearly announced that this is not the instructor's responsibility. Instead, all of the students were encouraged to contact their neighborhood schools. Over the 7 semesters, only 3 students were not able to find a placement and they were instructed to complete an observation by watching a video *Educating Peter* by Wurzburg and Goodwin (1992).

(d) Group work (application, synthesis and evaluation levels of Bloom). The students commonly expressed their concern in regards to the grade that they will be receiving for their participation in the group work. The instructor provided students with the rubric of the elements that would influence their grade. Throughout 7 analyzed semesters there was an opportunity to complete an alternative assignment. The alternatives were of equal difficulty. All of the students were provided with extra credit opportunities.

Administrative support for OEEC class consisted of: (a) departmental support, (b) instructional design support, and (c) course evaluation.

(a) Communication with others who teach parallel face to face sessions of the same course was required from the Department to include course objectives that reflect parallel face to face sessions. Ongoing support was provided from the department chair and college dean.

(b) Changes in the University online interactive services required additional support from departmental administration. Problem solving for technological challenges was provided by the College of Education department of technology staff. Some technological problems which students faced were solved by the instructor who has an expertise in instructional design and educational technology.

(c) Course evaluations were compared to the evaluation results for the same class taught in previous semesters. Course evaluations were also compared to the same class taught traditionally ('face to face'). Certain changes happened over the past three years which included student notification about course evaluation in a timely manner. Students were notified about course evaluations through the course shell and through regular email. It is important to emphasize that student feedback influenced teaching practices. For example, the number of students assigned to a cooperative learning group was changed in a way that they never

exceeded 5 students per group. The explanations of group assignments were given in different way. Students realized that group assignments were alternatives to the final exam. The number of quizzes was reduced in favor of alternatives of showing knowledge through papers on various course related topics.

Conclusions

The first action research theme dealt with the role of team work in course design. The findings indicated that a team of experts worked on the course development. In regards to information technology competence, additional IT support was assigned for the platform change. The team work was necessary in the initial course design, while later remained in the form of a support of the previous to the current instructor. The previous instructor served as a guest expert who actively participated in the course work when working on the particular themes.

The second action research theme dealt with the importance of cooperation between instructors. The instructor teaching the online section of the OEEC course was obliged to communicate with other faculty who taught parallel face to face sessions of the same course. It was required by the Department to develop course objectives that reflected parallel face to face sessions. This type of cooperation contributed with additional rigor to the online course.

The third research theme dealt with the influence of departmental support on implementing the online course changes. The findings revealed that faculty and administrators needed to arrange continuous adjustments of the teaching practices and course content. Changes in technology influenced some of the technical aspects of the coursework. For example, when completing the observation assignment, students were obliged to send a fax message with signed observation permission letters. The department administrator was included in the fax message exchange. This changed with the semesters and students started to send permission letters to their instructor by email as attachments.

The fourth research theme dealt with the influence of technology changes in online course re-design. In this study we analyzed seven course sections taught over a 3-year time period. In this time period the platform utilized for online teaching changed. Furthermore, the changes occurred in the area of web communication where social web started to expand and changed ways of student interaction. Changes in the platform influenced some of the course tasks, group tasks in particular. For example, all groups had a possibility to review and reflect on the work of other groups.

The fifth research theme dealt with the influence of changes in the field (e.g. research, legislation changes, regulations, policy, and textbook edition) on online course re-design. The course provided information on the current legislation, policies, terminology, and trends in special education. The area of special education is constantly changing, hence course instructors were regularly updating course materials. Textbook changes and new editions had separate sections devoted to specific

issues such as universal design for learning. Hence, some of the course goals were extended and assignments were adjusted to meet these course objectives.

The final research theme investigated various pedagogical issues that influenced student achievements in the course. The course assignments showed application and synthesis levels of Bloom. The pedagogical approach used in this course had a direct influence on the dropout rates. In contrast to other reports on e-learning dropout rates (Greenagel, 2002; Hershkovitz & Nachmias, 2011), students in this course were remarkably persistent. That may be due to the fact that this is a required class for teacher certification in Arizona. However, another factor may be instructor pedagogy. When instructors structure their online courses in ways similar to those described in this paper, students' need for community can be met through team affiliations structured into course assignments. Other pedagogical strategies may also have contributed to retention, such as (a) choices for individual research papers, (b) extra credit quizzes which meet the profiles of students with high internal locus of control, and (c) frequent assessments of course activities and products that provide students with ongoing indicators of progress towards their desired grade.

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Razvijanje suradničkog učenja u *online* okruženju: provođenje višedimenzionalnog poučavanja i učenja

Sažetak

U ovom radu autori su se usmjerili na načine na koje nastavnici i administrativno osoblje surađuju s ciljem osiguravanja provođenja višedimenzionalnog poučavanja i učenja u online kolegiju za buduće nastavnike. Rad se temelji na pretpostavci da se vidljivi napredak poučavanja može vezivati uz napredak u području informacijskih znanosti i tehnologije, postavljeni su i vrednovani različiti elementi kolegija iz područja specijalnog odgoja i obrazovanja koji se u cijelosti provodi online. Online kolegij je oblikovao tim sastavljen od nastavnika iz područja specijalnog odgoja i obrazovanja i stručnjaka u području oblikovanja učenja i poučavanja s nekoliko sveučilišta iz Sjedinjenih Američkih Država, a predavan je 10 uzastopnih godina. Uz korištenje metodološkog okvira akcijskog istraživanja opisane su promjene u sadržaju kolegija i metodičkim pristupima online nastavi. Istraživači su proveli usporednu analizu sadržaja kolegija i nastavnih pristupa korištenih u sedam semestara tijekom kojih je ovaj uvodni kolegij iz područja specijalnog odgoja i obrazovanja predavan u razdoblju od 3 akademske godine (u zimskim i ljetnim semestrima). Cilj ovog rada je pojasniti načine na koje nastavnici i administrativno osoblje surađuju s ciljem osiguravanja provođenja višedimenzionalnog učenja i poučavanja u online kolegiju 'Smjernice za obrazovanje djece s posebnostima SODP' (Orientation to Education of Exceptional Children – SODP), a koji pohađaju budući nastavnici. Rezultati istraživanja upućuju na potrebu za stalnim izmjenama u provedbi online nastave te promjenama nastavnih sadržaja. U radu se nude zaključci važni za daljnji razvoj online kolegija i poboljšanje poučavanja.

Ključne riječi: akcijsko istraživanje; *online* kolegij; obrazovanje nastavnika

Uvod

Olakšavanje provedbe višedimenzionalnog učenja i poučavanja u okviru *online* kolegija u programu za obrazovanje nastavnika važna je tema u području *online*

pedagogije. Na postavke *online* kolegija utječu nastavni sadržaji te stalni napredak u području informacijskih znanosti i tehnologije. Suradnja nastavnika i drugih stručnjaka u procesu oblikovanja *online* kolegija važan je element u proučavanju prisutnosti nastavnika u *online* okruženju (Wilson, Stacey, 2004; Ko, Rossen, 2010). U središtu ovog istraživanja je suradnja između stručnjaka iz različitih područja sa stručnjacima u području obrazovanja, a pri čemu se dodatno razmatra pitanje stručnosti za oblikovanje *online* kolegija te prethodnih iskustava nastavnika u *online* okruženju. Od velike je važnosti problem suradnje stručnjaka iz različitih područja, a pri čemu se trebaju sagledati i rezultati istraživanja o koristi suradničkog planiranja i timskog poučavanja *online* kolegija (Nevin, Thousand i Villa, 2009).

Značajan napredak u području informacijsko-komunikacijske tehnologije je dvojan. Promjene se vezuju uz elemente dostupne u *online* okruženju, ali i promjene u predznanju i iskustvu studenata koje izravno utječu na kolegij. Uz stalno prilagođavanje poučavanja tehnologijskim zahtjevima koje postavljaju studenti, promjene u tehnologiji se očituju i u oblikovanju kolegija. *Online* kolegij u okviru kojeg je provedeno istraživanje oblikovali su nastavnici iz područja specijalne pedagogije i stručnjaci iz područja oblikovanja učenja i poučavanja s nekoliko sveučilišta, te se provodio tijekom 10 uzastopnih godina. Kolegij je prvotno oblikovan za korištenje u otvorenom mrežnom okruženju korištenjem HTML koda. Nakon čega je prenesen na *WebCT* sučelje te naposljetku na *Blackboard* sučelje. Glavni dijelovi Kolegija se nisu mijenjali (glavni moduli, glavni nastavni sadržaji, zadaće, ocjenjivanje, vježbe), ali su nastavnici provodili stalne prilagodbe kako bi zadovoljili pojedinačne potrebe studenata te se prilagođavali novoj literaturi, temama i promjenama u području obrazovne politike.

Svrha ovog rada je prikazati suradnički proces u kojem nastavnici i administrativno osoblje na visokoškolskoj instituciji provode višedimenzionalno učenje i poučavanje u okviru *online* kolegija 'Smjernice za obrazovanje djece s posebnostima – SODP' (Orientation to Education of Exceptional Children – SODP), a koji se provodi u programu za obrazovanje nastavnika.

Teorijski okvir

Prilikom utvrđivanja uloge nastavnika u provedbi višedimenzionalnog učenja i poučavanja u *online* okruženju, korišten je sustav koji je postavio i nakon toga nadopunio Berge (1995, 2009). U Bergeovu sustavu razmatraju se pedagoške, upravljačke, društvene i tehničke sastavnice *online* okruženja te njihove različite uloge u okruženju. Istraživanja utemeljena na Bergeovu sustavu, a koja su uvrštena u prikaz literature, upućuju na činjenicu da se najveći naglasak stavlja na pedagošku ulogu nastavnika koja uključuje: oblikovanje kolegija, stručnost nastavnika, računalnu komunikaciju/davanje povratne informacije te olakšavanje međudjelovanja (Liu, Bonk, Magjuka, Lee i Su, 2005). Novije studije također ističu važnost suradnje nastavnika, administrativnog osoblja, studenata i zajednice u provedbi *online* nastave (Yang i Cornelious, 2005; Berge, 2009). Štoviše, zbog širenja virtualnih svjetova i drugih

obrazovnih okruženja, Berge (2009) poziva na promjenu uloge *online* nastavnika, pri čemu je nova uloga nastavnika neformalna, suradnička, a treba sadržavati učenje s osvrtom te sadržaje koje stvaraju korisnici.

Rovai i Hope (2004) navode da teorije učenje promiču društveni konstruktivizam ili učenje u društvenom okruženju, a čije obilježje je aktivna grupna izgradnja znanja za razliku od prijenosa znanja, a koje je ujedno i savršeno okruženje za učenje u *online* učionici. Swan (2004) je proveo analizu rezultata istraživanja o učinkovitosti učenja i utjecaju učinkovitosti na nastavnu praksu. Rezultati studije pokazuju da je djelotvornost učenja osigurana putem: međudjelovanja sa sadržajem, međudjelovanja s nastavnicima, međudjelovanja između studenata te međudjelovanja sa sučeljem kolegija. Nadalje, istraživanje koje su proveli Slagter van Tryon i Bishop (2009) daje teorijski okvir utemeljen na društvenoj obradi podataka te teoriji ustroja skupine, a moglo bi pomoći stručnjacima u području oblikovanja učenja i poučavanja u ispitivanju društvenog sustava iz perspektive *online* učenika.

Uz ulogu nastavnika u olakšavanju provedbe učenja i poučavanja, različite istraživačke studije istražuju načine na koji institucionalna podrška za korištenje informacijske i komunikacijske tehnologije (ICT) utječe na uspješnost provedbe *online* obrazovanja (Bolliger i Wasilik, 2009; Covington, Petherbridge i Warren, 2005; Reynolds, Treharne i Tripp, 2003; Wilson i Stacey, 2004; Zhao i Frank, 2003). Nedostatak podrške za korištenje ICT-a najčešće je spominjana prepreka za provedbu *online* nastave u prvom desetljeću novog milenija (Jone i Moller, 2002; Lee, 2001). Reynolds, Treharne i Tripp (2003) izvještavaju o nedorečenim rezultatima istraživanja o mogućnostima poboljšanja očekivanja vezanih uz pružanje usluga te učinkovitosti korištenja ICT-a. Zhao i Frank (2003) sugeriraju da nastavnici trebaju više vremena za odluku o korištenju raspoložive informacijsko-komunikacijske tehnologije. Covington, Petherbridge i Warren (2005) daju prikaz načina podrške nastavnicima za prijelaz prema korištenju *online* nastave u visokoškolskom okruženju te naglašavaju važnost suradnje između nastavnika, ali i tehničke podrške. Nešto novija studija Bolligera i Wasilika (2009) upućuje na studentske odnose te utjecaje nastavnika i institucije kao ključne čimbenike *online* poučavanja. Covington, Petherbridge i Warren (2005) uočavaju da teškoće s tehnologijom ili neodgovarajući pristup tehnologiji utječu na zadovoljstvo nastavnika s *online* poučavanjem. Uz dostupnu tehničku podršku, od osobite su važnosti mogućnost izobrazbe nastavnika te administrativna potpora odjela. Administrativna podrška radu nastavnika, dodatna prilagodba nastavničkih opterećenja, financijski poticaji te nadogradnja postojeće opreme također su važni čimbenici koji potiču nastavnike na korištenje *online* pedagogije (Jones i Moller, 2002). Bolliger i Wasilik (2009) su utvrdili da nastavnici smatraju kako je opterećenje prilikom provedbe *online* kolegija veće nego prilikom provedbe tradicionalne nastave, a što utječe na razvoj, usvajanje i provedbu *online* obrazovanja.

Problematika suradnje u provedbi *online* poučavanja, kao što je suradnja informatičkog osoblja s nastavnicima koji su stručnjaci za područje poučavanja,

često je istraživana tema tijekom 90-ih godina prošloga stoljeća. Austin i Baldwin (1991) navode četiri važna elementa na temelju kojih je moguće odlučivati o *online* poučavanju: odabir suradnika ili članova tima, podjela rada, postavljanje smjernica za rad, obustavljanje suradnje. Deset godina kasnije, Baran, Correia i Thompson (2011) ističu da nastavnici *online* kolegija trebaju prolaziti kroz stalan proces kritičkog osvrta i djelovanja putem kojeg je moguće mijenjati razumijevanje struktura vezanih uz *online* poučavanje.

Uz kritičke osvrte *online* nastavnika, ranije studije o razvoju *online* kolegija naglašavaju i važnost rasprave o ideološkim razlikama (Paul, 1999). Administrativna podrška pročelnika odsjeka, dekana koledža i uprave sveučilišta, ključni je čimbenik u provedbi nastave i programa koje nastavnici prepoznaju kao održive. Neely i Tucker (2010) opisuju promijenjenu ulogu nastavnika do koje dolazi uslijed širenja *online* programa na sveučilištima. Autori navode različite uloge: nastavnik ili moderator, pisac kurikula i stručnjak u području, nastavnik/ocjenjivač, akademski savjetnik i stručnjak u području oblikovanja učenja i poučavanja. Foster Davis, Sauber i Edwards (2011) ističu važnost dobrih odlika *online* programa u visokom obrazovanju te predlažu model za razvoj i unapređenje *online* programa koji uključuje odrednice u pet područja. Predloženi model uzima u obzir: (1) organizaciju koja je u mogućnosti provoditi usklađen i precizan rad, (2) organizaciju koja je spremna za pružanje pomoći, (3) organizaciju koja ulijeva povjerenje, (4) organizaciju koja pruža pojedinačnu pažnju, i (5) organizaciju koja uključuje fizičke objekte, osoblje, komunikacijske materijale i događanja.

Usmjerenost na organizaciju u središte stavlja sveučilišnu podršku za provedbu *online* učenja i poučavanja koja se vezuje uz: profesionalni razvoj nastavnika, stručnjake iz područja oblikovanja učenja i poučavanja i informacijsko-komunikacijske tehnologije, *online* stručne timove za podršku e-učenju, stalno dostupnu tehničku pomoć za studente i nastavno osoblje, ustroj knjižnice te raspoloživost računalnih učionica. Nedavna studija koju su proveli Macdonald i Poniatowska (2011) usmjerena je na razvoj *online* modula za akademsko osoblje uključeno u znanstvena istraživanja i oblikovanje kurikula uz korištenje metoda društvenog učenja. Istraživanjem je utvrđeno da je važnost stručnog usavršavanja ovisna o povezanosti usavršavanja sa specifičnim zadacima akademskog osoblja koje provodi *online* nastavu. Stručno usavršavanje akademskog osoblja izravno pridonosi dobrim odlikama *online* kolegija i programa.

Recenzije programa koje provode državne institucije koje se bave pitanjima obrazovanja te recenzije koje provodi administrativno osoblje u školskim okruzima, upućuju na pozitivne podatke o nastavničkim programima koji se provode u *online* prostoru. Ti pozitivni podaci utječu na odluke na razini sveučilišta o provedbi mješovitih programa te programa koji su u cijelosti *online*. Recenzije sveučilišnih programa u velikoj mjeri se oslanjaju na stope odustajanja od programa. Prema službenim podacima stopa odustajanja redovitih studenata prve godine na

četverogodišnjim javnim fakultetima na sveučilištima u Arizoni je 23% (Complete College America, 2011). Statistički podaci o stopama odustajanja ili nezavršavanju kolegija koji se provode *online* se stalno mijenjaju u korist *online* kolegija. U studiji koju je proveo Greenagel (2002) stopa odustajanja za e-učenje od 70% značajno je viša od utvrđene stope odustajanja od tradicionalne nastave na četverogodišnjim studijima koja iznosi 15%. Podaci dobiveni u međunarodnoj studiji koju su proveli Hershkovitz i Nachmias (2011) pokazuju da je 46% studenata upisanih u *online* kolegije u jednom trenutku usporavaju svoje *online* aktivnosti ili u potpunosti odustaju od kolegija. U razgovorima s osobama koje vode programe obrazovanja na daljinu i stručnjacima u području oblikovanja učenja i poučavanja, Threlkeld (2006) je utvrdio da je postojanje ili izostanak komunikacije najvažniji razlog nezadovoljstva studenata *online* kolegijima. Također postojanje ili izostanak komunikacije može biti čimbenik nezadovoljstva s tradicionalnom nastavom (posebno ako nastavnici nisu dostupni ili ne odgovaraju na studentska pitanja). Osim toga, Wang i Newlin (2000, 2002) su utvrdili da na uspješnost studenata utječe učestalost aktivnosti unutar *online* kolegija, visoka potreba prepoznavanja uratka, unutarnji lokus kontrole te samoefikasnost. Nasuprot tome, Yair (2007) piše da studenti koji su odustali od *online* kolegija značajno niže ocjenjuju svoje zadovoljstvo e-učenjem od studenata koji su uspješno završili *online* kolegij. Rezultati istraživanja pokazuju da se spomenute dvije skupine studenata ne razlikuju po akademskom lokusu kontrole. Nistor i Neubauer (2010) daju preporuku za lako primjenjivu metodu predviđanja odustajanja od *online* kolegija, a koja može pridonijeti poboljšanju kvalitete *online* poučavanja. Metoda predviđanja odustajanja uzima u obzir pokazatelje uspješnog sudjelovanja kao što su nazočnost u aktivnostima, osobno predstavljanje, elektroničke poruke nastavniku tijekom prva dva tjedna kolegija, ukupan broj poruka i duljina poruka.

Metodologija istraživanja

Ovo akcijsko istraživanje (Carr i Kemmis, 1986) proveli su nastavnici i pročelništvo Odsjeka u obliku samorefleksivnog upita, a s ciljem razumijevanja i poboljšanja vlastite nastavne prakse. Tema akcijskog istraživanja je proučavanje provođenja višedimenzionalnog poučavanja i učenja. Istraživači su nastavnici, promatrači i članovi tima koji je sudjelovao u početnom postavljanju ovog *online* kolegija, a u središtu istraživanja su nedavne promjene u sadržaju Kolegija i načinu poučavanja Kolegija.

Pregled literature upućuje na nekoliko istraživanja (Lamaster i Knop, 2004; Swinglehurst, Russell i Greenhalgh, 2008) u kojima je korištena metodologija akcijskog istraživanja u proučavanju *online* nastave. Swinglehurst, Russell i Greenhalgh (2008) koriste suradničko akcijsko istraživanje s ciljem istraživanja kolegijalnog promatranja nastave koja se provodi u *online* okruženju. Lamaster i Knop (2004) su istraživali načine na koje nastavnici u okviru *online* kolegija proučavaju, procjenjuju i mijenjaju nastavno okruženje. Podaci su prikupljeni

od studenata, asistenata i nastavnika uz uporabu nekoliko tehnika prikupljanja podataka (studentske fokus-grupe, upitnici za studente s otvorenim pitanjima, povratne informacije studenata, studentski uradci te dnevnik rada nastavnika). U ovom istraživanju primijenjene su kvalitativne metode te je provedena triangulacija podatka, a pritom su potvrđeni glavni trendovi i teme istraživanja.

Akcijsko istraživanje prema Stringeru (1999) uključuje tri faze: (1) uvid, (2) promišljanje i (3) djelovanje. Navedene faze istraživanja primijenjene su i u ovom istraživanju. Tijekom prve faze istraživanja definirana su pitanja i opisani su relevantni čimbenici. U drugoj fazi istraživači su prikazali i pojasnili prikupljene podatke, provedena je procjena važnosti tema koje su dobivene analizom te je stavljen naglasak na dodatna pitanja i probleme. U trećoj, završnoj fazi istraživanja, kroz procjenu problema ponuđena su i moguća rješenja. Prema Bergu (2004), postupak akcijskog istraživanja uključuje četiri faze: (1) utvrđivanje istraživačkih pitanja, (2) prikupljanje informacija s ciljem dobivanja odgovora na postavljena pitanja, (3) analiziranje i interpretiranje informacija i (4) dijeljenje rezultata sa sudionicima. U ovoj istraživačkoj studiji korišten je pristup prema kojem akcijsko istraživanje nije samo slijed znanstvenih koraka, već je ključno uzimati u obzir načela za provođenje društvenog istraživanja (McTaggart, 1996).

Teme akcijskog istraživanja

U ovom akcijskom istraživanju usmjerili smo se na sljedeće istraživačke teme: (1) uloga timskog rada u oblikovanju kolegija, (2) važnost suradnje između nastavnika, (3) utjecaj institucijske podrške na izmjene kolegija, (4) utjecaj tehnologijskih promjena na oblikovanje *online* kolegija, (5) utjecaj promjena u području (istraživanje, promjene zakona, propisi, politika, različita izdanja udžbenika) na oblikovanje *online* kolegija te (6) utjecaj metodičkih pristupa korištenih u kolegiju na postignuća učenika.

Kvalitativna metodologija istraživanja

U ovoj studiji korištene su kvalitativne metode istraživanja. Triangulacija podataka provedena je usporedbom rezultata istraživanja s podacima dostupnim u objavljenoj literaturi. Osim toga, tri znanstvenika su usporedila svoja gledišta o istraživačkim pitanja u fokusu ovog istraživanja. Sudionici akcijskog istraživanja bili su: učenici, nastavnici, stručnjaci u području oblikovanja učenja i poučavanja, nastavnici koji su prije predavali isti kolegij i pročelnica Odsjeka u okviru kojeg se Kolegij predaje.

SODP kolegij je tijekom redovnih zimskih i ljetnih semestara predavao isti nastavnik. Kolegij je bio postavljen na *Blackboard* sučelju koje omogućava cjelovito arhiviranje sadržaja kolegija, rasprava na forumima, zadaća te ocjena koje su studenti dobili za pojedine zadaće. Kolegij je u prosjeku pohađalo 30 studenata po semestru. Komparativna analiza je provedena na podacima iz 7 semestara SODP kolegija, a koji su prikupljeni tijekom tri godine. Prikupljeni podaci organizirani su kronološki, a sagledavali su se glavni trendovi. Taj je proces omogućio analitičku usporedbu

različitih oblika podataka, pri čemu se analiza usmjeravala na: (a) promjene u sadržaju Kolegija; (b) nastavne postupke u *online* prostoru; (c) dinamiku *online* rasprava; te (d) dinamiku timskog rada u grupnim zadaćama. Važno je naglasiti da se komunikacija odvijala i putem elektroničke pošte, ali se za potrebe ovog istraživanja nisu analizirale sačuvane poruke.

Tehnike prikupljanja podataka

Slično kao i istraživanje koje su proveli Lamaster i Knop (2004) i ovo se istraživanje temelji na sljedećim podacima: osobnim studentskim uradcima, studentskim zapisima na *online* forumima, grupnim studentskim uradcima, porukama elektroničke pošte između učenika i nastavnika (upiti o pravilima koja vrijede u Kolegiju, upiti i osvrti na zadaće), porukama elektroničke pošte između prethodnog i aktualnog nastavnika, osvrtu na Kolegij prethodnog nastavnika, osvrtu na Kolegij aktualnog nastavnika te evaluaciji Kolegija.

Rezultati i rasprava

SODP je obvezni kolegij na nastavničkim studijskim programima i programima za obrazovanje stručnjaka u području specijalnoj odgoja i obrazovanja. Nadalje, SODP je u skupini kolegija koji se vrednuju u općem studijskom području društvenih znanosti. Riječ je o uvodnom kolegiju u kojem se studenti upoznaju s glavnim pitanjima iz područja odgoja i obrazovanje djece s posebnim potrebama. U okviru Kolegija studenti uče o važećim zakonskim propisima, politikama, terminologiji te trendovima u području odgoja i obrazovanja učenika s posebnim potrebama. Pojašnjavaju se osobine iznimnih pojedinaca i utjecaji na njihovo učenje, uz navođenje prijedloga za primjenu učinkovitih metoda poučavanja i prilagodbi za učenike s različitostima. Ovaj je kolegij namijenjen osobama koje će raditi u obrazovnoj praksi, a dvosatno promatranje učenika za vrijeme dvije odgojno-obrazovne aktivnosti jedna je od obveznih aktivnosti za polaznike Kolegija.

Ciljevi Kolegija uključuju stjecanje osnovnih znanja i vještina potrebnih za praktičan rad u četiri područja:

1. Znanja o osobama s posebnim potrebama koja uključuju identifikaciju, prepoznavanje izazova na koje nailaze osobe s posebnim potrebama, doprinosi osoba s posebnim potrebama, očekivanja u području obrazovanja te obrazovni programi (s naglaskom na vrednovanje i osobno razumijevanje znanja);
2. Uvažavanje kulturnih utjecaja na osobe s posebnim potrebama te njihove obitelji (s naglaskom na inkluzivni pristup i inkluzivne škole u multikulturalnom društvu);
3. Znanje o utjecaju zakona i zakonskih sporova koji se odnose na osobe s posebnim potrebama (zakoni, politike, smjernice, pitanja vezana uz rad s djecom s posebnim obrazovnim potrebama);
4. Svijest o zajednici, državnim i nacionalnim stručnim organizacijama te udrugama roditelja koje rade s osobama s posebnim potrebama.

Zadaće Kolegija strukturirane su prema Bloomovoj taksonomiji (Bloom, 1956; Krathwohl, Bloom i Masia, 1973) utemeljenoj na tri područja obrazovnih aktivnosti: kognitivnom, afektivnom i psihomotornom. Kognitivno područje uključuje znanje i razvoj intelektualnih vještina, a koje su podijeljene na šest razina: (1) znanje; (2) razumijevanje, (3) primjena; (4) analiza; (5) sinteza, i (6) procjenjivanje.

Umjesto završnog ispita, ključne zadaće iz SODP kolegija koriste se kao dokaz ostvarivanja razine primjene i sinteze prema Bloomovoj taksonomiji. Kolegij uključuje sljedeće zadaće: (a) smjernice za učenje i alternativne smjernice za učenje, (b) promatranje jednog učenika s posebnim potrebama, (c) grupne zadaće, (d) zadaću s temom uloge obitelji u odgoju i obrazovanju djeteta s posebnim potrebama, (e) sudjelovanje u forumskim raspravama te (f) dodatne izborne zadaće – moderiranje *online* rasprava, prikaze literature, dodatne testove znanja.

Putem *online* rasprava ostvaruje se cilj nastavnika o postojanju informalnog mjesta na kojem se dodatno pojašnjava sadržaj nastave. Na *online* forumima nastavnik ima priliku i prepoznati moguće nepotpuno ili krivo razumijevanje sadržaja te shodno tome pojedinačno ili grupno dodatno pojasniti sadržaje. Kognitivni sadržaji prisutni na forumskim raspravama vezuju se uz teme iz područja specijalnog odgoja i obrazovanja, poučavanja učenika s posebnim potrebama te zagovaranje prava osoba s posebnim potrebama i druga pravna pitanja. Neke od forumskih rasprava oblikovane su s ciljem olakšavanja komunikacije između studenata u okviru grupnih aktivnosti. Razmjene poruka između nastavnika i studenata po svojim odlikama nalikuju raspravama u tradicionalnom razredu (nadovezivanje na tuđe ideje, nadopunjavanje tuđih misli, razmjena materijala). Navedene odlike forumskih rasprava su uočili i istraživači u srodnom kolegiju iz područja specijalnog odgoja i obrazovanja koji se predaje na kalifornijskom sveučilištu (Nevin, Hood i McNeil, 2002). Također, forumska tema naslovljena „Tema za pitanja koja se vezuju uz administrativna, tehnička i druga slična pitanja o kolegiju" sadržajno nalikuje službenim obavijestima koje putem oglasne ploče dobivaju studenti koji pohađaju tradicionalnu nastavu. Konačno, forumske rasprave su poslužile i kao mjesto na kojem su se zadovoljile neke emocionalne i psihosocijalne potrebe sudionika (poruke koje su studentima poslužile kao „ispušni ventil", poruke u kojima se tražilo dodatno pojašnjenje), a koje se u tradicionalnom razredu događaju izvan vidokruga nastavnika (prije ili nakon nastave i za vrijeme pauze). Činjenica da je u analiziranim kolegijima bilo više poruka putem kojih su studenti izražavali svoje nezadovoljstvo, upućuje na visoku razinu psihološke sigurnosti koju su studenti osjećali na forumu. Uočeno se može povezati i s načinom na koji su poruke postavljene, a to je pristup koji poziva sudionike na izricanje mišljenja.

Ishodi učenja. Na slici 1 je vidljiva iskrivljena distribucija ocjena studenata uslijed većeg broja odličnih (A) i vrlo dobrih (B) ocjena u sedam analiziranih semestara Kolegija, a što je odlika pristupa u kojem nastavnik oblikuje kolegij s ciljem ostvarivanja visoke razine učenja. Kao što izvještavaju Nevin i sur. (2002), slični rezultati ostvareni

su u istraživanju provedenom u Kaliforniji. Povećan broj studenata koji Kolegij dovršavaju u produženom vremenskom roku te onih koji se ispisuju iz Kolegija može se vezivati uz smanjenu upoznatost s korištenjem interneta i obrazovanja putem računala te nemogućnost pristupa internetu. Studenti koji ne uspiju u *online* kolegiju u novom semestru više ne upisuju *online* sekciju kolegija. Tijekom semestra stavovi studenata prema Kolegiju su se mijenjali, a studenti su postajali točniji u predaji radova te su imali i sve veće kompetencije vezane uz korištenje tehnologije. Ipak, u svakom od semestara pojedini studenti su zatražili i ostvarili mogućnost dovršavanja Kolegija u produženome vremenskom roku.

Slika 1.

Stopa odustajanja od pohađanja Kolegija. Jedan od ciljeva koji su se pokušali ostvariti u ovom kolegiju bilo je i smanjenje visoke stope odustajanja od 23% za studente prve godine studija na visokoškolskim programima (Complete College America, 2011), te stope od 46% koja je karakteristična za *online* kolegije (Hershkovitz & Nachmias, 2011). Kolegij je osmišljen u suradnji nastavnika i stručnjaka iz područja oblikovanja učenja i poučavanja s dva sveučilišta s jugozapada SAD-a. Skupina stručnjaka sudjelovala je u oblikovanju Kolegija, dok je dodatna podrška iz područja informacijskih tehnologija osigurana u vrijeme promjene *online* sučelja. Podaci upućuju na stalnu nisku učestalost odustajanja od SODP kolegija (manje od 20% studenata), a što je moguće povezati s pedagoškim pristupom korištenim u ovom kolegiju (povezivanje sadržaja, dodatna pojašnjenja putem obavijesti u Kolegiju, forumske rasprave te rasprave putem elektroničke pošte).

Studenti. Polaznici Kolegija bili su studenti različitih usmjerenja diplomskih i preddiplomskih studija, a pripadali su i različitim dobnim skupinama. U prosjeku je u svakom od semestara polovina polaznika studirala na nastavničkim studijima.

Nastavnik. Nositeljica Kolegija doktorirala je u području specijalnog odgoja i obrazovanja na sveučilištu koje pripada istraživačkim institucijama s visokom istraživačkom aktivnosti (Carnegie Foundation, 2012), jedno od područja kojima se bavi je i područje oblikovanja učenja i poučavanja. Nadalje, nastavnica ima iskustvo predavanja u tradicionalnom razredu i to kolegija iz područja specijalnog odgoja i obrazovanja na preddiplomskim i diplomskim studijima. Prethodna nastavnica bila je prisutna *online* tijekom svih sedam semestara Kolegija i imala je ulogu gostujućeg stručnjaka za pojedine teme.

Struktura Kolegija. U SODP kolegiju nastavnik je odredio raspored i tempo aktivnosti, pri čemu su se opisane zadaće odvijale u dvotjednim blokovima. Uz tekstove u udžbeniku, nastavnim su sadržajima studenti u bilo kojem trenutku mogli pristupiti i putem nastavnih bilješki. Studente se poticalo na samostalno provođenje istraživanja i povezivanje vlastitih zapažanja i nastavnih iskustava. Promjene u različitim izdanjima udžbenika odraz su promjena u multimedijama, pri čemu se događa odmak od isključivo tekstualnih sadržaja u smjeru DVD-materijala koji služe kao nadopuna tekstu.

Forumske rasprave. Nekoliko je vrsta forumskih rasprava u okviru *online* kolegija koje imaju posebnu obrazovnu vrijednost utemeljenu na iskustvenom te na teorijskom znanju (Hammond, 2000). Forumske rasprave u ovom kolegiju počinju s uvodnom biografijom, poželjnim elementom u svakom *online* kolegiju (Hammond, 2000). Uz forumske rasprave utemeljene na pitanjima izravno vezanim uz sadržaje Kolegija, a koje je po Bloomovoj taksonomiji moguće povezati s razinom "primjene" i "razumijevanja", postoji i forumska rasprava za pitanja povezana uz administrativna, tehnička i druga slična pitanja. Tijekom 7 semestara, došlo je do promjena u brojnosti elektroničkih poruka i vrsti forumskih pitanja, a primjetno je smanjenje broja tehničkih pitanja. Odvojene forumske rasprave postavljene su s ciljem ostvarivanja komunikacije između studenata, a vezano uz rad na grupnim zadaćama. U grupnim zadaćama, razmjene između sudionika (nastavnika, studenata) imaju odlike razgovora u tradicionalnoj učionici (nadovezivanje na tuđe ideje, nadopunjavanje tuđih misli, razmjena materijala). Nekoliko puta studenti su organizirali međusobne sastanke uživo, a s ciljem provođenja zadaća utemeljenih na suradničkom učenju. Studenti su samo nekoliko puta tražili sastanak uživo ili telefonski razgovor s nastavnikom.

Djelotvorni nastavni pristupi. Svakog semestra je nositelju Kolegija i studentima pružena mogućnost podrške jednog stručnjaka iz tima koji je sudjelovao u početnom postavljanju Kolegija. U jednoj od nastavnih situacija spomenuta je stručnjakinja primijetila da studenti stvaraju pogrešnu predodžbu o procjeni na osnovi kriterija. Nositeljica Kolegija je nakon toga oblikovala dodatne materijale i uvrstila ih među stalne sadržaje Kolegija te prilagodila forumske rasprave s ciljem poticanja razumijevanja nastavnih sadržaja. Rokovi za predaju zadaća su tijekom semestara prilagođavani u skladu s vjerskim praznicima, provođene su prilagodbe za studente s posebnim potrebama i studente koji su za vrijeme studiranja bili u vojnoj službi. Nastavnica je također po potrebi mijenjala rokove za predaju zadaća, prilagođavala medijske materijale, osmišljavala odgovarajuće zamjenske udžbenike i alternativne načine za provedbu zadaće promatranja jednog učenika s posebnim potrebama.

Procjena znanja studenata. Glavne su odlike strukture ovog kolegija stalne procjene i vrednovanje rada studenata (testovi i ocjenjivanje sadržaja forumskih rasprava s ciljem postignuća razine znanja i razumijevanja po Bloomovoj taksonomiji). U Kolegij su uvrštene četiri vrste procjene: (a) sudjelovanje u forumskim raspravama, (b) pojedinačni seminarski radovi, (c) provedba promatranja jednog učenika s posebnim potrebama u školskom okruženju te (d) grupni rad.

a) Sudjelovanje u forumskim raspravama (razine Bloomove taksonomije: primjena, sinteza i procjenjivanje). Studenti su obavezni sudjelovati u svim forumskim raspravama koje se vezuju uz sadržaje Kolegija s najmanje dvije promišljene poruke u svakoj od rasprava. Prva poruka bi trebala sadržavati izravan odgovor na postavljeno forumsko pitanje, dok bi daljnje poruke trebale uključivati osvrt na poruke drugih studenata.

(b) Pojedinačni seminarski radovi (razine Bloomove taksonomije: primjena i sinteza). U jednom dijelu Kolegija od studenata se traži da ispune test u formi eseja kako bi nastavili raditi na zadaći uspoređivanja i pronalaženja suprotnosti. Prilikom ocjenjivanja studentskih uradaka, nastavnica je uočila bolje uratke i razumijevanje kod studenata koji su bez prestanka radili na zadaći usporedbe.

(c) Provedba promatranja učenika s posebnim potrebama u školskom okruženju (razine Bloomove taksonomije: primjena i sinteza). Od studenata se očekivalo da samostalno pronađu jednog učenika s posebnim potrebama za provedbu promatranja u jednoj od lokalnih škola. Brucoši i studenti koji nisu studirali u okviru nekog od nastavničkih programa često su trebali dodatnu pomoć u pronalaženju škole u kojoj bi proveli promatranje učenika. Studenti viših godina koji su već bili upisani u nastavničke programe najčešće su pronalazili učenika za promatranje u školi u kojoj su obavljali nastavnu praksu. Budući da studenti imaju običaj tražiti pomoć nastavnika u provedbi te zadaće, u samom opisu zadaće jasno je navedeno da nije nastavnikova uloga pronalaziti mjesto za provedbu promatranja. Umjesto traženja pomoći nastavnika, studente se potiče na kontaktiranje obližnjih škola. Tijekom sedam semestara samo 3 studenta nisu bila u mogućnosti provesti zadaću promatranja u školi te su zadaću ispunili tako što su pogledali dokumentarni film *Educating Peter* (Wurzburg i Goodwin, 1992).

(d) Grupni rad (razine Bloomove taksonomije: primjena, sinteza i procjenjivanje). Studenti su tijekom semestara učestalo izražavali zabrinutost u vezi s ocjenom koju će dobiti za svoje sudjelovanje u grupnom radu. Zbog toga je nastavnik studentima omogućio uvid u listu elemenata koji utječu na njihovu ocjenu u toj zadaći. Tijekom 7 semestara studenti su imali priliku provoditi alternativne zadaće koje su bile iste težine kao i osnovne zadaće. Nadalje, svi studenti su imali mogućnost izvršavanja zadaća koje bi im donosile dodatne bodove.

Administrativna podrška za SODP kolegij sastojala se od: (a) administrativne podrške Odsjeka, (b) podrške u oblikovanju učenja i poučavanja te (c) procjene Kolegija i nastavnika.

(a) Jedna od obveza nositelja Kolegija bila je i obvezna komunikacija s drugim nastavnicima koji predaju paralelne sekcije istog kolegija u tradicionalnom razredu, a s ciljem usklađivanja obrazovnih ciljeva između svih sekcija istog kolegija. Pročelnica Odsjeka i dekan osiguravali su stalnu podršku nastavnicima.

(b) Promjene u interaktivnim *online* uslugama na razini sveučilišta utjecale su na potrebu za dodatnom podrškom administrativnog osoblja Odsjeka. Rješavanje tehnologijskih problema osiguravalo je tehnologijsko osoblje matičnog *Koledža za obrazovanje*. Neki od tehničkih problema na koje su nailazili studenti riješeni su uz pomoć nastavnice koja ima znanja u području oblikovanja učenja i poučavanja te obrazovne tehnologije.

(c) Evaluacije Kolegija i nastave uspoređene su s rezultatima evaluacije za isti kolegij u proteklim semestrima. Također su uspoređene i s paralelnim sekcijama istog kolegija koji se predaje u tradicionalnoj učionici. U razdoblju od posljednje tri godine dogodile su se određene promjene u načinu obavještavanja studenata o provedbi evaluacija. Studenti su obaviješteni o provedbi evaluacije putem oglasne ploče u prostoru samog *online* kolegija te putem elektroničke pošte. Važno je naglasiti da su studentski komentari u evaluacijama utjecali na provedbu nastave. Na primjer, broj studenata u grupnim zadaćama je prilagođen na način da ne premašuje pet studenata po skupini. Nadalje, davana su dodatna objašnjenja za grupne zadatke te su studenti počeli razumijevati da se grupni zadaci provode umjesto završnih ispita. Broj je testova smanjen na način da je povećan broj seminarskih radova na teme vezane uz sadržaj Kolegija.

Zaključci

Prva tema ovog akcijskog istraživanja bila je uloga timskog rada u oblikovanju Kolegija. Rezultati istraživanja pokazuju da se razvojem Kolegija bavio tim stručnjaka. Kada je riječ o kompetencijama iz područja informacijske tehnologije, prilikom mijenjanja *online* sučelja, osigurana je dodatna podrška stručnjaka iz područja informacijske tehnologije. Prilikom početnog postavljanja Kolegija bio je nužan timski rad, a određeni oblici timskog rada su se zadržali i kasnije u vidu podrške prethodnog nastavnika aktualnom nastavniku. Prethodni nastavnik je gostovao u Kolegiju kao stručni savjetnik, pri čemu je aktivno sudjelovao u radu na pojedinim temama.

Druga tema akcijskog istraživanja odnosila se na važnost suradnje između nastavnika. Nastavnik koji podučava *online* SODP kolegij imao je obvezu komunicirati s drugim nastavnicima koji predaju paralelne sekcije istog kolegija u tradicionalnoj učionici. Ciljevi Kolegija razvijeni su na razini Odsjeka, a isti ciljevi su se provodili u *online* i tradicionalnim sekcijama kolegija. Ta je vrsta suradnje pridonijela osiguravanju strogih standarda u *online* kolegiju.

Treća istraživačka tema odnosi se na utjecaj podrške Odsjeka na provedbu promjena u *online* kolegiju. Rezultati istraživanja pokazuju da nastavnici i administrativno osoblje trebaju surađivati na stalnoj prilagodbi nastavnih metoda i sadržaja kolegija. Promjene u tehnologiji utjecale su na neke od tehničkih odlika Kolegija. Na primjer, tijekom izvršavanja zadaće promatranja, studenti su bili obvezni putem faksimilnog uređaja poslati potpisano pismo iz kojeg je vidljivo da su dobili potrebne dozvole za promatranje. Administrativno osoblje Odsjeka je bilo uključeno u razmjenu poruka putem faksimilnog uređaja. Cijela procedura se promijenila tijekom nekoliko godina i studenti su dozvole za promatranje učenika počeli slati izravno nastavniku putem e-pošte.

Četvrta istraživačka tema odnosi se na utjecaj tehnologijskih promjena na oblikovanje *online* kolegija. U ovom istraživanju analizirano je sedam semestara kolegija koji se predavao tijekom tri godine. U navedenom vremenskom razdoblju

mijenjalo se *online* sučelje u okviru kojeg se provodila nastava. Nadalje, došlo je do promjena u području mrežne komunikacije pri čemu je došlo do širenja društvenih mreža i promjene načina na koji student komuniciraju. Promjene *online* sučelja u okviru kojeg se provodila nastava, utjecale su na neke od zadaća u Kolegiju, a posebice je došlo do promjena u grupnim zadaćama. Na primjer, sve skupine su dobile mogućnost pregleda tuđih uradaka i davanja osvrta na uratke drugih grupa.

Peta istraživačka tema bavi se utjecajem promjena u području (istraživanje, promjene zakona i propisa, obrazovne politike, izdanja udžbenika) na oblikovanje *online* kolegija. Ovaj kolegij između ostalog pruža informacije o važećim propisima, obrazovnim politikama, terminologiji i suvremenim kretanjima u obrazovanju osoba s posebnim potrebama. Promjene i nova izdanja udžbenika donose odvojena poglavlja posvećena pitanjima kao što su univerzalni dizajn za učenje. Nadalje, neki od ciljeva Kolegija su promijenjeni i zadaće su prilagođene ostvarivanju tih novih ciljeva.

Završna istraživačka tema proučavala je različita pedagoška pitanja koja su utjecala na postignuće polaznika Kolegija. Zadaće koje su nuđene u okviru Kolegija omogućavaju ostvarivanje razine primjene i sinteze prema Bloomovoj taksonomiji. Pedagoški pristup korišten u ovom Kolegiju imao je izravan utjecaj na smanjenje odustajanja od Kolegija. U usporedbi s drugim izvještajima o učestalosti odustajanja od *online* kolegija (Greenagel, 2002; Hershkovitz i Nachmias, 2011) moguće je zaključiti da su studenti postojano pohađali Kolegij. Ipak, taj podatak se može vezivati uz činjenicu da je riječ o obveznom kolegiju za dobivanje nastavničkog certifikata u Arizoni. Drugi čimbenik može biti i pedagoški pristup nastavnika. U slučajevima kada nastavnik postavi svoj *online* kolegij na način sličan kolegiju opisanom u ovom radu studentska potreba za pripadanjem zajednici ostvaruje se putem pripadnosti skupinama u kojima se radi na grupnim zadaćama. Moguće je da su na zadržavanje studenta u Kolegiju utjecale i druge pedagoške strategije kao što su: (a) mogućnost izbora istraživačke teme prilikom pisanja seminarskog rada, (b) dodatni testovi putem kojih su studenti s visokim unutarnjim lokusom kontrole mogli ostvariti dodatne bodove te (c) česte procjene studentskih aktivnosti i uradaka na temelju kojih su studenti imali stalan uvid u napredovanje i mogućnost postizanja željenog uspjeha u Kolegiju.