Programmatic and Teaching Initiatives for Ethnically Diverse Nursing Students: A Literature Review

Marivic B. Torregosa, PhD, RN, FNP-BC1,*, Karen H. Morin, DSN, RN, ANEF, FAAN2

1 College of Nursing and Health Sciences, Texas A&M International University, Laredo, Texas, United States
2 College of Nursing, University of Wisconsin-Milwaukee, Milwaukee, Wisconsin, United States

SUMMARY

Purpose: The purpose of this study was to examine the evidence of programmatic and teaching initiatives implemented by nursing faculty to enhance the academic success rates of ethnically diverse students (EDS).

Methods: A search of the literature in the Cumulative Index to Nursing and Allied Health Literature and MEDLINE databases, wherein primary sources about programmatic and teaching initiative to promote academic success among EDS, was conducted. Using specific the Cumulative Index to Nursing and Allied Health Literature subject headings and Medical Subject Headings, 230 articles were retrieved from both databases. A total of 22 peer-reviewed articles published between 2000 and 2011 were included in the literature review.

Results: We found that evidence on the predominant programmatic and teaching initiatives for EDS academic success was inconclusive. The most common programmatic and teaching initiatives implemented by nursing faculty were peer mentoring, faculty-student mentoring, social networking, academic support, and financial support.

Conclusion: Although positive student outcomes were reported about programmatic and teaching initiatives for EDS, the evidence remained inconclusive. Recommendations for policy and future research in this area of nursing education research were provided.

Introduction

The need for increased representation of minorities in health care professions is not unique to the United States but also in other developed English speaking countries. In the US, the academic achievement disparity between ethnically diverse students (EDS) and the White majority has been implicated as one of the reasons for this under representation (Institute of Medicine, 2003). Past studies in nursing and in higher education indicate a discrepancy in terms of academic achievement between the White majority and EDS (Martin, 2009; Sayles, Shelton, & Powell, 2003; Strauss & Volkwein, 2004; Sutherland, Hamilton, & Goodman, 2007). Barriers to success which contribute to this academic gap among EDS include lack of academic preparation due to inherent English language difficulties (Amaro, Abriam-Yago, & Yoder, 2006; Gardner, 2005b; Starr, 2009), lack of family support and high family demands (Alicea-Planas, 2009; Cason et al., 2008; Gardner, Starr), perceived lack of support from faculty and peers leading to feelings of social isolation in the learning environment (Alicea-Planas, Starr), and lack of financial resources (Alicea-Planas; Cason et al.). The above mentioned barriers to success have also been identified as sources of the academic gap between EDS and the White majority in other developed English speaking countries (Etowa, Foster, Vukic, Wittstock, & Youden, 2005; Wilson, McKinney, & Rapata-Hanning, 2011). Thus in the past decade or so nursing faculty worldwide have taken on the task of developing, implementing, and evaluating programmatic and teaching initiatives to enhance the success rates among EDS. Although evaluations from these initiatives exist, evidence on their effectiveness towards student success remains unclear.

The purpose of this study was to examine the evidence of programmatic and teaching initiatives implemented by nursing faculty to enhance the academic success rates of EDS. It is critical to examine the state of the science in this area of research to build the science of evidence-based teaching. Likewise, finite resources are better utilized when nursing faculty are informed on strategies that would provide the most benefit to improve EDS student success.
this review, EDS are those students who speak English as second language (ESL), and those who belong to other ethnic and racial groups other than White.

Methods

A review of the literature was performed on the programmatic and teaching initiatives conducted by nursing faculty to improve EDS academic success. A search of the literature was conducted in the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and MEDLINE wherein most research on the topic of programmatic and teaching initiatives for EDS student success was indexed. The search was delimited for the years 2000–2011, inclusive, and covered peer-reviewed quantitative, qualitative, and program evaluation reports written in the English language. The keywords paired together with the Boolean operator and’ (i.e., Nursing and Student Retention, Nursing and Cultural Diversity, ESL and Nursing, Mentoring and Cultural Nursing and Minority Groups, Nursing and Mentoring, and Nursing and Academic Performance) were used to search CINAHL and yielded an unwieldy number of articles. For example, an initial Boolean search using the keywords Nursing AND Student Retention yielded 330 articles. By using CINAHL-specific subject headings, the search was narrowed. For example, the CINAHL-specific subject heading "Student Retention" yielded 37 peer-reviewed articles. Other CINAHL-specific subject headings used were “Students, Nursing”, “Education, Nursing”, “Education, Nursing, Baccalaureate”, “Students, Nursing, Baccalaureate”, “Minority Groups”, “Academic Achievement”, “Academic Performance”, “Mentorship” and “Student Recruitment”. For the MEDLINE search, Medical Subject Headings terms “Minority groups”, “Nursing” and “Mentors” were used in combination in one search. Twenty-five articles were retrieved.

A total of 230 articles were retrieved from both databases. Each of the articles' abstracts was reviewed and examined; only articles pertaining to programmatic and teaching interventions to improve EDS academic success were included in this review. Articles about barriers or challenges encountered by students in the nursing program, experiences of students in the nursing program, opinion articles, letters to the editor, unpublished articles, and dissertations were excluded. Duplicate articles were omitted. After these exclusions, 22 articles were analyzed. The characteristics of each primary source were gathered and documented in a matrix (Table). From this matrix, quality appraisal on the methodological, theoretical, and measurement weaknesses of each primary source was conducted. Themes about the programmatic and teaching initiatives implemented for EDS globally and their outcomes were determined.

Results

From 2000 to 2011, articles published on programmatic and teaching initiatives to improve the academic success among EDS were predominantly program evaluation reports (Table). Of the 22 primary sources reviewed, 16 were program evaluation reports, 3 reports used qualitative research designs, 2 used quantitative research designs, and 1 used a mixed method research design. Four articles were international reports from countries like Canada, Australia, and New Zealand. Among the quantitative reports, the quality of the interventions to improve student outcomes could not be ascertained as systematic measurement of the interventions and student outcomes were unclear. Likewise, control variables were not built in the analysis which diminished the internal validity of the study findings. Descriptive statistics were mainly used in the analysis. Only three reports mentioned a conceptual framework being used as guide in the planning and implementation of programmatic and teaching initiatives. Both Dapremont (2011) and Gardner (2005a) used Tinto’s Theory of Student Retention while Evans (2007) used Watson’s Theory of Human Caring and Bevis and Watson’s Caring Curriculum. Of all the primary sources, 77% (n=17) indicated that programmatic and teaching interventions were conducted only for EDS while 23% of the articles (n=5) cited that interventions were implemented for both EDS and other students who were at risk for academic failure. Globally, the participants of programmatic and teaching initiatives implemented in nursing schools were Black undergraduate nursing students (Dapremont), Maori nursing students (Wilson et al., 2011), economically and academically disadvantaged students (Cantu & Rogers, 2007; Edwards et al., 2009; Escallier & Fullerton, 2009; Valencia-Go, 2005; Wilson, Sanner, & McAllister, 2010), aboriginal precollege students (Annonson, Desjarlais, Nixon, Whiteman, & Bird, 2008), ESL nursing students (Brown, 2008; Colallillo, 2007; Guhde, 2003; Klish, 2000), Alaskan Native/American Indian nursing students (DeLapp, Hautman, & Anderson, 2008; Evans), Hispanic and other student groups at risk for academic failure (Anders, Edmonds, Monreal, & Galvan, 2007; Cantu & Rogers; Evans; Gardner, 2005b; Stewart, 2005; Sutherland et al., 2007; Symes, Tart, Travis, & Toombs, 2002), Associates Degree in Nursing (ADN) minority nursing students (Colallillo), Black junior high school students (Etowa et al., 2005), and Native Canadians, immigrants and refugees (Labun, 2002).

In general, there is a similarity in the programmatic and teaching approaches that have been implemented for EDS in the US and in other English-speaking countries. The most common programmatic and teaching initiatives implemented by nursing faculty were the following: (a) peer mentoring, (b) faculty-student mentoring, (c) social networking, (d) academic support, and (e) financial support.

Peer mentoring

In peer mentoring, support is provided to students by mentors who serve as role models to fellow students (Sims-Giddens, Helton, & Hope, 2010). Peer mentors provide fellow students with resources that may be helpful for student success (Dennison, 2010). For this review, eight reports included peer-mentoring as one of the programmatic and teaching initiatives conducted by faculty in their respective schools. Peer mentoring styles implemented in nursing schools varied. Because English language communication has been identified as one of the barriers for EDS who are ESL (Alicea-Planas, 2009; Amaro et al., 2006; Brown, 2008; Gardner, 2005b; Starr, 2009), nursing faculty have attempted to pair ESL students with non-ESL students as language partners (Gardner, 2005a; Klish, 2000; Annonson et al. (2008)) utilized fourth year students as mentors to third year students transitioning into clinical practicum. Others utilized upperclassmen as mentors to lowerclassmen nursing students (Cantu & Rogers, 2007; Stewart, 2005; Valencia-Go, 2005). DeLapp et al. (2008) designed a mentoring program for prenursing students. Stewart implemented a mentoring workshop prior to implementing a mentoring programmatic initiative. The challenges encountered by nursing faculty were resistance among students to join in peer mentoring due to stigma and conflicting schedules between mentors and mentees (Valencia-Go).

Improved test performance and increased graduation, retention rates, and National Council Licensure Examination (NCLEX) pass rates were reported as the student outcomes from peer mentoring efforts (Annonson et al., 2008; Brown, 2008; Cantu & Rogers, 2007; DeLapp et al., 2008; Gardner, 2005a; Stewart, 2005). Although positive student outcomes were claimed, limitations were found across all studies. Most reports did not indicate theoretical underpinnings guiding the design and implementation of the initiative.
<table>
<thead>
<tr>
<th>Author, year</th>
<th>Journal name</th>
<th>Theoretical framework</th>
<th>Study design</th>
<th>Subjects</th>
<th>Instruments</th>
<th>Interventions</th>
<th>Statistics</th>
<th>Study results</th>
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</thead>
<tbody>
<tr>
<td>Dapremont, 2011</td>
<td>Journal of Nursing Education</td>
<td>Tinto’s Model of Dropout</td>
<td>Qualitative retrospective</td>
<td>$N = 18$ Black undergraduate nursing students</td>
<td>Interview guide</td>
<td>None</td>
<td>N/A</td>
<td>Peer support was important for success. Developing relationships with White students was beneficial.</td>
</tr>
<tr>
<td>Wilson, McKinney, &amp; Rapata-Hanning, 2011</td>
<td>Contemporary Nurse: A Journal for the Australian Nursing Profession</td>
<td>None</td>
<td>Non-experimental Cross-sectional</td>
<td>$N = 108$ Māori nursing students</td>
<td>Indigenous Nursing Survey of Educational Experiences (INSEE)</td>
<td>Academic support, faculty support</td>
<td>Spearman Rho</td>
<td>Peer support was important for success. Developing relationships with White students was beneficial.</td>
</tr>
<tr>
<td>Wilson, Sanner, &amp; McAllister, 2010</td>
<td>Journal of Cultural Diversity</td>
<td>None</td>
<td>Qualitative-focus groups</td>
<td>$N = 30$ disadvantaged junior and senior nursing students.</td>
<td>None</td>
<td>Formal faculty-student mentoring, stipend</td>
<td>N/A</td>
<td>All but one student passed the NCLEX at first attempt.</td>
</tr>
<tr>
<td>Edwards et al., 2009</td>
<td>Journal of Cultural Diversity</td>
<td>None</td>
<td>Program evaluation report</td>
<td>Ethnically diverse and educationally disadvantaged</td>
<td>None</td>
<td>Faculty-student mentoring, academic support including student orientation, Heart Math, Buzan’s Mind Mapping</td>
<td>N/A</td>
<td>96% passed the NCLEX on first attempt.</td>
</tr>
<tr>
<td>Escallier &amp; Fullerton, 2009</td>
<td>Journal of Nursing Education</td>
<td>None</td>
<td>Program evaluation report</td>
<td>Disadvantaged undergraduate nursing students</td>
<td>None</td>
<td>Social networking including informal mentorship with peers and members of the profession, academic support including technology support Peer mentoring between upperclassmen and lower classmen, social networking though social gatherings, academic support including a 10-month preparatory course, academic advising, one-on-one tutorials, coaching</td>
<td>N/A</td>
<td>100% retention rate. Inconsistent contact between mentors and mentees.</td>
</tr>
<tr>
<td>Anonson, Desjarlais, Nixon, Whitteman, &amp; Bird, 2008</td>
<td>Journal of Transcultural Nursing</td>
<td>None</td>
<td>Program evaluation report</td>
<td>Aboriginal pre-college students and American Indian nursing students</td>
<td>None</td>
<td>Peer mentoring between upperclassmen and lower classmen, social networking though social gatherings, academic support including a 10-month preparatory course, academic advising, one-on-one tutorials, coaching</td>
<td>N/A</td>
<td>13% increase in the retention rate of aboriginal students.</td>
</tr>
<tr>
<td>Brown, 2008</td>
<td>Journal of Transcultural Nursing</td>
<td>None</td>
<td>Qualitative/ focus groups</td>
<td>$N = 35$ ESL students</td>
<td>None</td>
<td>Peer mentoring through heterogeneous study groups, academic support including faculty tutoring and language support. Established community partners, academic support through academic advising, peer-mentoring to prenursing students, stipends</td>
<td>N/A</td>
<td>Improved retention rate. Increased graduation rate at 67%. NCLEX pass rate increased from 0% to 50%. All but one of the participants successfully passed the NCLEX.</td>
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<tr>
<td>DeLapp, Hautman, &amp; Anderson, 2008</td>
<td>Journal of Nursing Education</td>
<td>None</td>
<td>Program evaluation report</td>
<td>Alaskan Native/American Indian prenursing students</td>
<td>None</td>
<td>Peer mentoring through heterogeneous study groups, academic support including faculty tutoring and language support. Established community partners, academic support through academic advising, peer-mentoring to prenursing students, stipends</td>
<td>N/A</td>
<td>(continued on next page)</td>
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<tr>
<td>Author, year</td>
<td>Journal name</td>
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<td>Anders, Edmonds, Monreal, &amp; Galvan, 2007</td>
<td>Hispanic Health Care International</td>
<td>None</td>
<td>Program evaluation report</td>
<td>Hispanic nursing students and other at risk students</td>
<td>None</td>
<td>Summer workshop, academic support including tutoring sessions for students with grades &lt; 75%, mandatory coaching for students with grades &lt; 79%, stipend and scholarships, social gatherings, social networking with other health majors and Hispanic nurses</td>
<td>N/A</td>
<td>100% success rate of participants. Outside of campus mentoring did not work.</td>
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<tr>
<td>Cantu &amp; Rogers, 2007</td>
<td>Hispanic Health Care International</td>
<td>None</td>
<td>Program evaluation report</td>
<td>N = 104 educationally and economically disadvantaged students Hispanic nursing students</td>
<td>None</td>
<td>Academic support including orientation program, and test taking strategies, peer mentoring between upperclassmen and lower classmen Six 1-hr group sessions of formal and structured faculty mentoring, student orientation Academic support including academic advisor and tutoring, financial support</td>
<td>N/A</td>
<td>450% increase in participation in the mentoring program. 100% were successful in the NCLEX in the first attempt. Participants had higher pass rates and progression rates than did nonparticipants. Improved student's self-confidence; stipends allowed students to study.</td>
</tr>
<tr>
<td>Colalillo, 2007</td>
<td>Teaching and Learning in Nursing</td>
<td>None</td>
<td>Quasi-experimental</td>
<td>First semester ADN students, students born outside of the US, and ESL students</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
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<td>Evans, 2007</td>
<td>Journal of Nursing Education</td>
<td>Watson's (1985) theory of human caring, Bezis and Watson's (1989) caring curriculum</td>
<td>Mixed method</td>
<td>N = 96 Hispanic and American Indian prenursing students</td>
<td>76-item questionnaire. Two open ended questions</td>
<td>Academic support including academic advisor and tutoring, financial support</td>
<td>None</td>
<td>None</td>
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<tr>
<td>Sutherland, Hamilton, &amp; Goodman, 2007</td>
<td>Journal of Nursing Education</td>
<td>None</td>
<td>Program evaluation report</td>
<td>Hispanic students, first generation college students, students with a C grade or with clinical course failure.</td>
<td>Four instruments to measure mentoring, tutoring, seminars of success, and overall program.</td>
<td>Formal faculty mentoring, academic support including tutorials, success seminars, and laptop computers to students</td>
<td>Unpaired t test</td>
<td>Increased retention rate by 98%.</td>
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<tr>
<td>Etowa, Foster, Vubic, Wittstock, &amp; Youden, 2005</td>
<td>International Journal of Nursing Education Scholarship</td>
<td>None</td>
<td>Program evaluation report</td>
<td>Black high school students</td>
<td>None</td>
<td>Social networking including nursing camp and pizza, socials, academic support</td>
<td>N/A</td>
<td>100% increase in Black student enrollment and admission. 100% retention rate in a year.</td>
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<td>Gardner, 2005a</td>
<td>Journal of Nursing Education</td>
<td>Tinto's Theory of Student Retention</td>
<td>Program evaluation report</td>
<td>Students with a C grade on examination, Hmong nursing students</td>
<td>None</td>
<td>Academic support through a retention coordinator, social networking with minority nurses and minority nursing students, family night, Support group meetings, peer mentoring between ESL and non-ESL students</td>
<td>N/A</td>
<td>95% retention rate. 90% increase in NCLEX first time pass rate. Attrition was &lt; 5%.</td>
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<tr>
<td>Stewart, 2005</td>
<td>ANF Journal</td>
<td>None</td>
<td>Program evaluation report</td>
<td>Minority RSN students and other at risk students</td>
<td>None</td>
<td>Academic support including modules on student success, formal tutoring, review of test items prior to exam, formal peer mentoring between senior and junior nursing students, stipend, family orientation to the program</td>
<td>N/A</td>
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<tr>
<td>Journal of Cultural Diversity</td>
<td>Program evaluation report</td>
<td>None</td>
<td>Academic support including language tutorial</td>
<td>N/A</td>
<td>Increased interaction between ESL student and non-ESL student</td>
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<td>Sutherland et al. (2007)</td>
<td>Program evaluation report</td>
<td>None</td>
<td>Social networking with peers in the community</td>
<td>N/A</td>
<td>Increased interaction between ESL student and non-ESL student</td>
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<tr>
<td>Wilson et al. (2010)</td>
<td>Program evaluation report</td>
<td>ESL students</td>
<td>Academic support including language tutorial</td>
<td>N/A</td>
<td>Increased interaction between ESL student and non-ESL student</td>
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Faculty-student mentoring

Faculty-student mentoring is a personal relationship between faculty and student in which the faculty acts as a guide, role model, and teacher for the less experienced student (Johnson & Zlotnik, 2005). In such relationship, the mentor is emotionally invested in the personal and professional development of the mentee (Baker & Griffin, 2010). The role between a mentor and advisor differs. Advisors are more focused on academic planning, that is, providing students with information on courses to take for a specific major, degree requirements, and academic rules and regulations (Baker & Griffin).

Faculty-student mentoring could be formal/structured or informal/unstructured. Formal or structured mentoring include formal training to mentors and mentees on mentoring, a written contract between mentors and mentees, regular meetings between mentors and mentees, and systematic evaluation of mentor's progress. On the other hand, informal or unstructured mentoring are those mentoring activities that are fluid in nature which means that formal training, regular meetings, mentoring contracts, and systematic evaluation of students' progress are typically not conducted. Both types of faculty-student mentoring, structured and unstructured, have been implemented by nursing faculty. Colalillo (2007) implemented a formal/structured faculty-student mentoring program wherein the faculty met with a small group of students for 1 hour each week for 6 consecutive weeks to improve student retention. She found that participants of the programmatic initiative had higher pass rates and progression rates than nonparticipants. Although the results of her investigation were promising, the participants self-selected to join in the initiative; they might have had more motivation to succeed in nursing than those who did not participate in the initiative.

Wilson et al. (2010) established a formal faculty-student mentoring program wherein the faculty mentor was assigned to at least three mentees. Formal training about student mentoring was provided to mentors. Regular meetings were scheduled to identify academic weaknesses of the mentee. Mentors and mentees both received stipends for participation. Although the investigators claimed the positive influence of faculty-student mentoring on NCLEX pass rates, the lack of control for extraneous factors made the quality and effectiveness of the programmatic initiative on student success unclear.

Sutherland et al. (2007) implemented a structured faculty mentoring initiative wherein student's progress was monitored from entry until graduation. In addition, the participants received other support services such as advisement, expert tutoring, and laptop computers. The investigators found that participants did not perform significantly better than nonparticipants of the programmatic initiatives except for one course. However, they indicated that participation in the program diminished the disparity in terms of academic performance between EDS and White students.

Valencia-Go (2005) established an informal/unstructured mentoring program wherein faculty, upper classmen, and nurses from the community were recruited as mentors. She described
mentoring had a weak impact on achieving student outcomes. Because of the busy work schedules of the mentors, meetings with mentees were infrequent and inconsistent. Escallier and Fullerton (2009) also reported interactions between mentors and mentees were sporadic and infrequent in an unstructured mentoring program.

Social networking

Social networking is a cluster of activities designed to promote social connections with others to gain social capital (Bourdieu, 1985; Coleman, 1988; Lin, 2001). There are two types of social networking that have been undertaken in nursing schools: (a) networking via informal social events, and (b) networking with role models as means of socialization into the nursing profession. Nurse faculty have used informal social events in the form of potluck dinners, pizza socials, family nights, and other gathering events to enhance students' social connections (Anders et al., 2007; Anonson et al., 2008; DeLapp et al., 2008; Etowa et al., 2005; Gardner, 2005a; Klisch, 2000; Stokes, 2003). Anders et al. implemented social gatherings to promote social skills and to create a balance between students' academic and social life. These social events also served as an informal forum in which students and faculty could interact. Inviting family members into these informal social events promoted parent awareness about the academic demands in nursing and promoted a sense of community among students, faculty, and parents (Anders et al.; Gardner). Likewise, networking of students with role models in the community from the same ethnic background or with other students from other health majors were also undertaken in a number of schools (Anders et al.; Escallier & Fullerton, 2009; Gardner). The reported student outcomes from social networking strategies were 100% retention rate (Gardner), improved completion rates of the nursing program (Stokes), and improved student satisfaction and NCLEX pass rates (Klisch).

While current reports indicate the important role of social networking on student success, it was not clear how social networking was defined and systematically measured in these studies. Likewise, most reports were not explicit in the inclusion criteria and sample size of students who participated in the intervention. Statistical analysis to determine the effect of the programmatic initiative on student outcomes was not provided. Currently, it appears that rigorous research designs are needed for future research in this area.

Academic support

Academic support is a group of activities usually provided by a nursing program or institution to enhance student academic performance. Nursing faculty have implemented various types or components of academic support for students including; (a) referrals of students to academic and community resources (Escallier & Fullerton, 2009; Etowa et al., 2005), (b) language support (Brown, 2008; Klisch, 2000), (c) technological support (Sutherland et al., 2007), (d) brown bag sessions on test taking strategies (Cantu & Rogers, 2007), (e) mandatory academic tutorials (Anders et al., 2007), (f) developmental courses for students (Anonson et al., 2008; Labun, 2002; Symes et al., 2002) and (g) one-on-one tutoring (Anders et al.; Guede, 2003). Also, nursing schools initiated student orientation events. Including parents in student orientation provided good opportunities for nursing faculty to inform parents and students about the academic demands in nursing and potential resources for success (Anders et al.; Gardner, 2005a).

Most reports indicate student participation in academic support activities was voluntary. Only four reports indicated attendance from students was mandatory. Anders et al. (2007) required all students who scored less than 75% in any nursing examination to attend tutoring sessions. Likewise, Symes et al. (2002) developed a course mandatory for students who did not meet the cut-off score of a standardized nursing entrance examination or were identified as at-risk. Similarly, Labun (2002) and Anonson et al. (2008) designed college preparatory courses to equip students with the necessary academic skills prior to entering nursing.

Although mandatory developmental courses for at-risk and EDS students were reported to improve retention rates (Anders et al., 2007; Anonson et al., 2008), graduation rates (Anders et al.; Labun, 2002), first time pass rates on the NCLEX (Anders et al.), and academic performance on clinical nursing courses (Symes et al., 2002), these initiatives were received with mixed reviews. While this programmatic strategy was well received by faculty, it was met with anger by some students and parents as this meant added expense and one additional semester in the nursing program (Symes et al.). For students who understood the need for strong academic preparation prior to entering nursing, the course was considered useful and worth the added cost. Symes et al. reported the pass rates of students who enrolled in the mandatory preparatory course were comparable to the pass rates of students who were not identified as at-risk.

Although positive student outcomes were reported from academic support initiatives, most of these reports were narrative accounts. Systematic measurement of programmatic initiatives and student outcomes as well as control of extraneous factors were not conducted. Thus the quality or effectiveness of these interventions remained inconclusive. Because these initiatives were implemented in conjunction with others, it remained unclear which component of academic support worked best to attain expected student outcomes.

Financial support

Stipends and scholarship monies were offered to EDS students to assist with the financial burden in nursing school (Anders et al., 2007; DeLapp et al., 2008; Stewart, 2005). Issues such as student eligibility requirements for stipends and scholarship monies were reported. Students who were already recipients of government-sponsored student loans were ineligible for any additional federal financial support that was over students' identified financial need (Anders et al.). Receipt of additional support would result in a reduced amount of student loans. Consequently, students who qualified for stipends and scholarship monies did not avail them to these incentives for fear of losing their student loans and incurring additional debt from the federal government. Students were dismayed with this rule as it precluded them from receiving extra income.

While Anders et al. (2007) provided detailed explanation on students' eligibility for financial support, other reports were not. Stewart (2005) described participation alone in a grant sponsored programmatic initiative entitled students to receive a monthly stipend. Stipends were provided to students as long as they made continued progress in the nursing program (DeLapp et al., 2008). Based on these reports, it was not clear whether eligibility for stipends or scholarships was need based or merit based.

Although reports indicated positive outcomes were derived from financial support in achieving EDS student success (Anders et al., 2007; DeLapp et al., 2008; Stewart, 2005), empirical evidence substantiating this relationship remained unclear. Currently, information on the relationship between financial support and student success is anecdotal. Because such programmatic initiative is implemented along with many others, the impact
of financial support on student success is not known. In the next section, a discussion and analysis of the programmatic and teaching initiatives are presented.

Discussion

The purpose of this study was to examine the evidence of programmatic and teaching initiatives implemented by nursing faculty to enhance the academic success rates of EDS in the last decade. Twenty-two articles were included in the review. We found that although positive outcomes were reported to have derived from programmatic and teaching initiatives to improve EDS academic success, the evidence remained unclear. Since the turn of the 21st century, the methodologies used in this area of nursing education research have not advanced.

Three of the five common programmatic and teaching initiatives implemented by nursing faculty are faculty-student mentoring (formal/structured and informal/unstructured), peer mentoring, and social networking. Based on our review, it was not known what type of faculty-student mentoring would lead to better student outcomes. Although it appeared that formal faculty-mentoring lent towards systematic tracking and evaluation of student’s progress (Colalillo, 2007; Sutherland et al., 2007; Wilson et al., 2010), it was possible that this stringent and constricting type of relationship stifled student creativity. On the other hand, the leniency in informal faculty-student mentoring programs may not lead to improved student outcomes. Mentoring programs were not successful due to infrequent and inconsistent communication between mentors and mentees (Anders et al., 2007; Escallier & Fullerton, 2009; Valencia-Go, 2005). Thus, future research is needed to explore faculty-student mentoring styles that would reap the most benefit for EDS.

Peer mentoring and social networking were conducted by faculty to improve student outcomes and to enhance student integration into the learning environment (Anders et al., 2007; Anonson et al., 2008; Brown, 2008; Cantu & Rogers, 2007; Dapremont, 2011; DeLapp et al., 2008; Etowa et al., 2005; Gardner, 2005a; Klisch, 2000; Stewart, 2005; Valencia-Go, 2005). Nursing faculty encountered issues when implementing peer mentoring in their respective schools. There was resistance among students to join in peer mentoring due to the stigma associated with it. The other challenge was failure of mentors and mentees to meet on a consistent basis (Escallier & Fullerton, 2009; Valencia-Go). Based on these reports, it is critical for faculty to conduct careful planning of peer mentoring so that it is not misconstrued as being discriminatory against certain groups of students. Contracts may need to be created between mentors and mentees. Peer mentoring activities may need to be monitored by a designated faculty to ensure success of the initiative.

While reports indicated that the above programmatic initiatives were instrumental in EDS student success, the evidence was unclear. Theoretical principles guiding the design of peer mentoring and social networking efforts were absent in most reports. It was not known whether heterogeneous peer mentoring dyads and heterogeneous social networks would result in better student outcomes than implementing homogenous peer mentoring dyads and homogeneous social networks. According to Lin (2001), interacting with individuals with whom one did not share the same characteristics would offer greater benefits versus networking with individuals with whom one shared similar characteristics. Past studies indicated that students who connected and interacted with individuals outside of their cliques were more successful in college than their counterparts (Martin, 2009; Thomas, 2000). Thus, future research needs to examine the types of student networks that are associated with EDS academic success. Likewise, greater clarity in the conceptualization and measurement of peer mentoring and social networks are also needed in future research.

Finally, the other two common programmatic and teaching initiative conducted by nursing faculty are academic support and financial support (Anonson et al., 2008; Edwards et al., 2009). While reports claimed positive student outcomes were derived from academic support and financial support (Anders et al., 2007; Anonson et al.; Brown, 2008; DeLapp et al., 2008; Edwards et al.; Evans, 2007; Guhde, 2003; Klisch, 2000; Labun, 2002; Stewart, 2005; Sutherland et al., 2007; Valencia-Go, 2005), the evidence was inconclusive. Because these programmatic initiatives were conducted in conjunction with many others, their contribution towards student success remained unknown. Including control variables in the analysis in future studies may shed light on this gap.

Conclusion and recommendations

In summary, nursing faculty implemented various programmatic and teaching initiatives to improve the academic success among EDS. However, evidence in support of the effectiveness of these programmatic and teaching initiatives towards achieving EDS academic success remained inconclusive. Conceptual and methodological limitations were found in the current literature. Thus, we propose the following recommendations for policy and direction of future work in this area:

1. Because perceptions of discrimination and academic stigma are associated with peer mentoring activities, a caring atmosphere conducive to learning for all students should be the mission in the design and implementation of programmatic and teaching initiatives. The implementation of peer mentoring or any programmatic initiative should not paint an impression that certain groups of students are being targeted.
2. Mechanisms need to be in place to systematically track and evaluate student progress and outcomes from programmatic and teaching initiatives.
3. Although narrative, exploratory, and program evaluation reports are important, rigorous research designs, which allow systematic measurement and replication, are critical in the development of the best practices of teaching and learning for EDS.
4. The design and implementation of programmatic and teaching initiatives for EDS academic success need to be guided by some type of theoretical principles. Conducting programmatic and teaching strategies devoid of theoretical principles are not helpful in the generation of new hypotheses and in building the science of nursing education.
5. We recommend that tapping theories on social capital and methodologies such as social network analysis (ego-centric and sociometric) (Marsden, 2002, 2003; Scott, 2000) from the field of sociology may help address the theoretical and methodological gaps found in current nursing literature.

Limitations of the study

This review of the literature provided an overview of the current state of the science on programmatic and teaching initiatives implemented by nursing faculty to improve EDS academic success. However, results of this review were limited to the articles retrieved, reviewed, and critiqued in this study. Programmatic and teaching initiatives for other student groups were not included. Because the primary sources reviewed were purposively selected, there may have been other primary sources that were missed in the review.
Conflict of interest

The authors declare no conflict of interest.

References


