

Emancipatory Research: A Synthesis of Quantitative Evidence

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Abstract : *Emancipatory research challenges conventional ways in which knowledge is constructed within educational research. Using the Johanna Briggs methods, the authors conducted a systematic critical appraisal of the 45 quantitative emancipatory research articles published between 2000 and 2011 and provide a synthesis of findings. Type of studies, participants, and outcomes measure served as criteria for considering studies. As the results shown, 125 key findings were assigned into 26 groups, 12 thematic categories, five overarching descriptions: agency in community health; instruction practice and student engagement; learning experience impacts student performance; participation, student characteristic and programmatic opportunity; and university support, international education, evaluation, and professor specialization. The findings suggested that: systematic appraisal practice could be used for other syntheses; teaching emancipatory research methods in graduate school is important; course design, teacher program preparation, and teaching activities should closely represent societal needs, social culture, and demonstrate an awareness of students' voice and cultural backgrounds.*

Keywords: *educational implications; emancipatory research, systematic appraisal, teaching*

I. Introduction

Studying others in which the researcher has no first hand experience poses unique challenges to interpreting the findings related to reporting experiences, types of interactions, observations, or levels of achievement. Without consideration for the lived experiences among particular groups, such as indigenous people, linguistically or socio-culturally diverse groups, erroneous interpretations of the findings may range from inaccurate to non-representative. Studying others is often influenced by the researcher's pre-conceptions or a lack of knowledge about the inherent contextual and power relationships between the researcher and the researched.¹ To ensure the veracity of the findings and/or that the results derive from an intervention, researchers must demonstrate that their lived experiences, and cultural affiliations do not unduly hinder their report of results or interpretations. In short, researchers are obligated to describe their own positionality. Making the researcher's stance transparent can assist the reader in deciding how the researcher's perspective and bias may, if at all, impact his or her interpretations of the research inquiry.

Emancipatory research is one approach to research inquiry that minimizes the potential for those who are minoritized and researched to remain voiceless or marginalized. This form of inquiry also necessitates a level of transparency that is not often required or evident in other forms of inquiry. However, the knowledge base that comprises the field of inquiry is relatively unknown. In last three decades of educational research, emancipatory research has been defined by a variety of terminology including among others, transformative research, social justice research, postcolonial discourse studies, feminist research, critical race studies, indigenous research, participatory action research, culturally sensitive research, and African womanist research.

Engaging in emancipatory research pushes researchers to become aware of their taken granted assumptions' and its central role in research.² Questioning the power relationships that are inherent to the researcher-researched relationship demands that researchers begin to convey their underlying theories-in-use, locate themselves culturally or theoretically, explain the influence of the research on the researcher and vice-versa, and ensure that participants and their voices are adequately represented.

1.1 Review Questions

Using the Johanna Briggs methods, the purpose of this work was to conduct a systematic critical appraisal of the emancipatory research articles that met search criteria and provide a synthesis of findings that were responsive to the following research questions:

(1) Of the studies meeting the standardized Johanna Briggs critical appraisal instrument, how many categories emerged?

(2) Based on the categorization of the similarity in meanings among the studies' what are the implications for practice?

II. Methodology

2.1 Search Strategy

After developing an initial list of emancipatory literature search terms, the first author invited, Drs. Joseph Zadjia, Linda Tillman and Joyce King, experts in the field, to identify additional search terms. The terms were used to the conduct the search included: transformative research, social justice research, critical theory research, critical theory research, postcolonial discourse studies, feminist research, critical race studies, anticolonial research, indigenous research, activist participatory research, participatory action research, action research, cultural reproduction, globalization, Neo-Liberalism, genealogies, hegemony, ideology, imagined communities, praxis, culturally appropriate research, culturally specific research, culturally sensitive research, liberatory research, feminist participatory research, Africana womanist research, and transformative-emancipatory research.

To identify articles that were representative of emancipatory research, we searched ERIC, the Professional Development Collection, Psychology and Behavioral Sciences Collection, Race Relations, PsychINFO, Sociological Collection, Women's Studies International and OmniFile Full-Text Mega databases for articles published between 2000 and 2011. To facilitate finding articles, we invited the College of Education's Head Librarian. He reviewed the thesaurus in each database using the given search terms to see if it could be used for a key word term search. When there was no exact match, he then suggested synonyms. For example, when using the term Post-Colonial Discourse Studies, we found that alternative terms could be used such as postcolonialism, postcolonial analysis, colonization, and decolonization. For the term, Feminist Research, we also looked for the following key words, feminist theory/methodology, and feminism.

Using the 26 keywords or their identified synonym, 1,281 articles were initially identified. The researchers read every abstract to determine if the article fit the search parameters and showed evidence that it: 1) had a focus on an educational issue, 2) described the research process, methodology, and results, and 3) indicated if the article had been peer reviewed. After completing this step, 703 articles remained. The researchers coded each article by its method of inquiry, which were identified as conceptual, qualitative, or quantitative. Works that were essays, and reviews of book chapters were excluded from further analysis. There were 304 conceptual, 354 qualitative, and 45 quantitative publications. The findings reported in this paper are limited to a synthesis of the 45 quantitative studies. The evidence searching process is shown in **Fig. 1**.

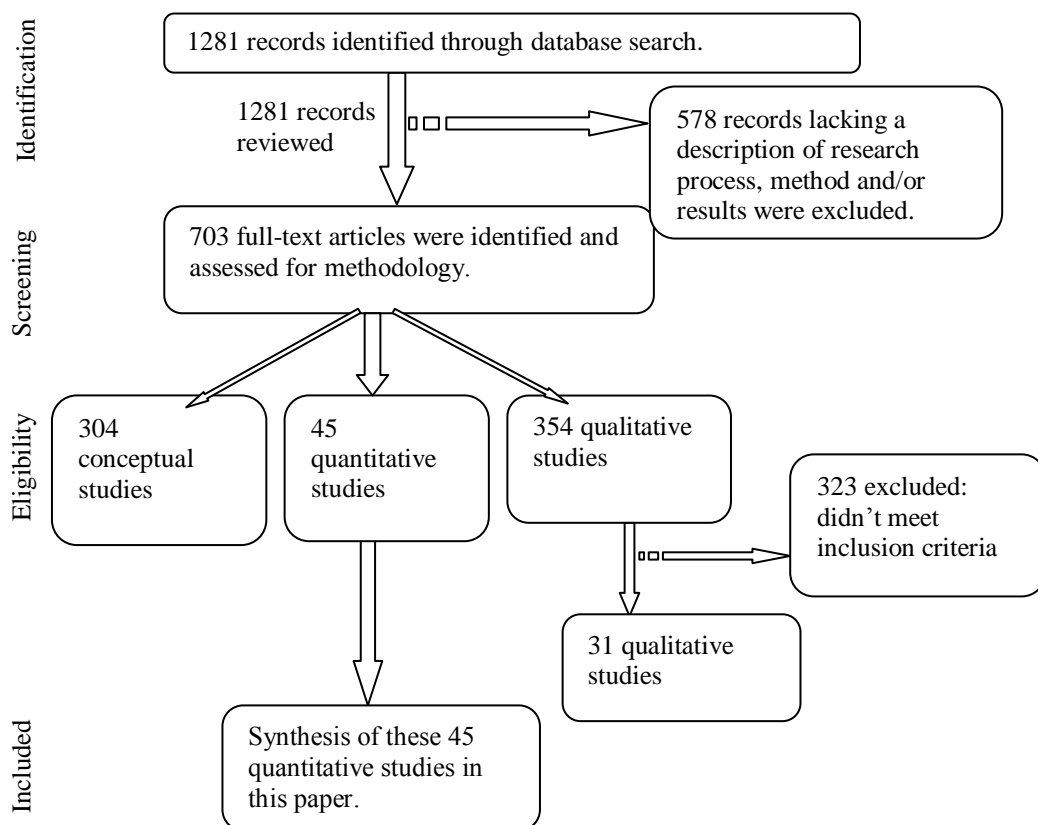


Figure 1: the flow diagram for evidence search process

2.2 Criteria for Considering Studies in this Review

Studies described in this manuscript were peer reviewed, published between 2000 and 2011 and used one of the following quantitative techniques: case study with descriptive data, frequency counts, correlation, post hoc database analysis, content analysis, and mixed methods.

Participants in the studies included students enrolled in K-12, college, graduate, post-graduate; both public and independent schools; K-12 teachers, university faculties, alumni, stakeholder groups; people from different backgrounds including African American, Turkish, Black and White, South Africans, Spanish-speaking parents, Canadian university professors, chief executive officers and university deans, low-income mothers; students enrolled in college/university degree programs in health science, medicine, nursing and computer programming.

Outcomes measures across the studies included: questionnaire (scaled items and open-ended questions), rankings of Australian universities, both quantitative and qualitative classroom observation data, and students' course, grades or reflective writings.

2.3 Critical Appraisal

We identified the number of studies that met the required criteria using the standardized Johanna Briggs critical appraisal instrument, which is comprised of three steps.

The JBI (2012) process includes ten criteria for step one. To step one we added the following item: The research is ethical; there is evidence of ethical approval by the appropriate board governing institutional review board. Because emancipatory research seeks to give voice to the participants, seeking their permission to engage in research studies was a criterion that the researchers felt was essential.³ Each article had to meet eight of the eleven criteria overall. Studies were excluded due to not mentioning, or not securing institutional review approval and for other reasons, such as the lack of an explicit description of the methods, methodology, data analysis, or results.

For Step 1, Assessment, the researchers identified the article number in the database, author and title, the journal title, year, volume, number and pages, the study's methodology, and determined whether or not it explicitly met the following criteria or was unclear: 1. There is statement that describes the author's philosophical perspective, 2. There is congruity between stated philosophical perspective and methodology, 3. There is congruity between the research methodology and the research questions/objectives, 4. There is congruity between the research methodology and the methods used to collect the data, 5. There is congruity between the research methodology and the representation and analysis of data, 6. There is congruity between the research methodology and the interpretation of the result, 7. There is a statement locating the researcher culturally or theoretically, 8. The influence of the research on the researcher and vice-versa is addressed, 9. Participants and their voices are adequately represented. 10. The research is ethical; there is evidence of ethical approval by the appropriate body and 11. Conclusions drawn in the study appear to flow from the analysis, interpretation, or the data.

For Step 2, Data Extraction, researchers reviewed each article and then entered the following information into an Excel spreadsheet: methodology, method, phenomena of interest, data analysis (a description of how the data were analyzed), the authors' conclusions, and researcher's comments. We also assessed the credibility of evidence as: 1) unequivocal, 2) credible, or 3) not supported.⁴

Articles were assigned as Unequivocal if their evidence was beyond a reasonable doubt, or included findings that were factual, observed, or directly reported and not open to challenge. Articles were assigned as Credible if the findings were plausible, or could be logically inferred from the data. If the findings were interpretive or could not be challenged then this term was appropriate. Articles were assigned as Not Supported if the data did not support the findings. For Step 3, relevant findings from the analysis of each article within a particular method were entered into an Excel spreadsheet.

In quantitative research, meta-analysis is used to mathematically combine the results of more than two studies to improve the reliability of the results. To accurately combine results, studies for inclusion must be similar across a number of characteristics. When researchers report treatment effects such as an effect size, meta-analysis can be used to identify this common effect. What happens when researchers want to compare quantitative outcomes within articles that use emancipatory research? What can be learned from trying to characterize such outcomes? We used the JBI to systematically identify the practical outcomes from this database of studies. Thus, the factor common across the data was that each was identified as an emancipatory research study.

We adapted the JBI methodology for our purposes along with a clear description of how we have implemented the approach so that it may be replicated. We used the JBI approach because it was not possible to proceed with a meta-synthesis due to heterogeneity of data. Thus, the JBI approach was used to provide a

narrative summary in relation to the outcomes of interest and to present the quantitative studies' findings. In essence we used the same methodology used for qualitative evidence where findings are extracted and collated into categories and then into synthesized findings in order to structure a narrative summary using the guidance provided by JBI. Specifically we used the JBI method as follows. We carefully followed the data extraction protocol described above for Steps 2 and 3.

2.4 Data Extraction and Synthesis

For step 3, initially we categorized articles by method and tried to group the findings. However we found that this was not effective. Thus we looked across the findings from each article and grouped them thematically based on similarities. Stated another way, from these 45 quantitative studies, we extracted key findings and assigned them into groups where they were logical commonalities. We identified thematic categories and further synthesised the findings into overarching descriptions. For example, we took the collective findings among three articles used in Synthesis #1 (Agency in community health) and Category #1 (Building effective community health services). Those findings were that:

- (1) Transdisciplinary research training helps build links between culture and the social determinants of health, and in designing and, implementing mental health services.⁵
- (2) The baseline HbA1c mean of participants in the intervention group was 8.6% and it improved to 7.8% at 6 months ($p < .01$). No changes were observed in the mean among the control group (8.5%). Intervention participants reported significantly greater improvements in understanding their diabetes compared. This study demonstrates the effectiveness of community health workers and their role in working with multidisciplinary teams in providing culturally appropriate health care delivery.⁶
- (3) Continuous growth in the enrollment and participation of older African Americans volunteers in a community was observed over a seven-year period.⁷

Our interpretation of the collective findings was that building capacity for effective services necessitates working together with community workers and demonstrating cultural sensitivity. Our category was identified as 'Building effective community health services' and the emergent synthesis was 'Agency in Community Health.'

III. Results

The dataset consisted of 45 quantitative studies, which included 22 surveys, 12 questionnaires, three observations, two cases, two descriptive reviews, one secondary data analysis, one mixed study, one correlation analysis, and one content analysis. There were 55 findings among the 22 survey studies, 33 findings from 12 questionnaire studies, four findings from three observation studies, seven findings from two case studies, six findings from two descriptive review studies, five findings from one secondary data analysis research, three findings from the mixed study, one finding from the correlation research, and 11 findings from the content analysis research. Overall there were a total of 125 well-founded and explicit findings from 45 studies.

One hundred twenty-five key findings were assigned into 26 groups. The 26 groups, coalesced into 12 thematic categories and were further synthesised into five overarching descriptions: agency in community health; instructional practice and student engagement; learning experience impacts student performance; participation, student characteristic and programmatic opportunity; and university support, international education, evaluation, and professor specialization.

Three studies reported findings about agency in community health, nine studies reported about instructional practice and student engagement. Also, the authors of 17 studies reported that learning experiences impacted student performance. In five studies the authors reported how participation, student characteristic and programmatic opportunity were interrelated. The remaining 11 studies described university support (from the state, for course and student), international education, evaluation, and professor specialization.

3.1 Synthesis 1: Agency in Community Health

The articles in this synthesis refer to agency in community health. This synthesis included one category, building effective community health service with three studies.

3.1.1 Category 1: Building Effective Community Health Service

The findings from three studies suggested that needs of adequately serving community member health needs often requires that people from different organizations work cooperatively and respond in a culturally sensitive manner to individual with health problems.⁵⁻⁷

3.2 Synthesis 2: Instructional Practice and Student Engagement

This synthesis included nine studies, which discuss instructional practice and student engagement. One of the studies describes the essential purpose of teaching, which is performed to enhance student capacity for meaning making and for their transformational growth as individuals. Findings suggest that it is essential for teachers to carefully consider ways to engage students fully in all aspects of their education such as having them

assess their own performance, stressing both performance and achievement goals. Moreover, the ways in which teachers are trained, inevitably influences the ways in which they set up teaching environment and the kind learning experience that they provide. The studies recommended outcomes for teacher success and varied pathways to ensuring teacher competence. There were two categories in this synthesis: student-centered instructional approaches and the influence of teacher instructional practice on student outcome.

3.2.1 Category 2: Students Centered Considerations

In this category, researchers discussed the importance of giving voice to and listening to student voice, while trying to promote student ownership for learning and pointed out that achievement goals were not student sole objective.⁸⁻¹¹

3.2.2 Category 3: Influence of Teacher Preparation on Instruction

This category includes two subsets: how pedagogies influence teacher instructional practices;¹²⁻¹³ how societal needs influence teacher training and that the need to rapidly increase the teaching force which has resulted in different pathways for preparing teachers for classroom practice.¹⁴⁻¹⁶

3.3 Synthesis 3: Learning Experience Impacts Student Performance

This synthesis describes how learning experience impacted student performance. Seventeen studies comprised these synthesis and the findings produced two categories.

3.3.1 Category 4: Strategies for Improving Student performance

Strategies for improving student performance were related to the type of instruction provided and strategy used. For example bias free instruction, peer support, cooperative group work, creating learning environment that encourage self-responsibility, and autonomy described in this synthesis, included five subsets of findings: participants' desire for bias free instruction and less prejudice in classroom assignment;¹⁷⁻²⁰ peer support and an emphasis on critical thinking to support females who were in single gender schools;²¹⁻²² how group work improves student cooperation and learning outcomes;²³⁻²⁵ environments that encourage student responsibility and for their learning and growth;²⁶⁻²⁷ and the role of self-selection and self-management in improving student performance.²⁸⁻²⁹ Findings in this category indicated that learning experiences, which stress student ownership, opportunities for reflection, and their application of concepts tend to promote better outcomes. Researchers reported that a variety of interactions among groups of other students tended to promote active learning and collaboration, skills that were essential to most work place interactions. Stressing student capacity to provide evidence for what they know and showing them that knowledge acquisition was rudimentary for building a nation of independent and self-correcting thinkers is a fundamental task of formative education.

3.3.2 Category 5: Influence of Culture, Family Support, and Stereotyping on Learning

This category included three subsets: Cultures (i.e. Indigenous groups) that stressed the importance of combining play and learning;³⁰ that family support and specific pedagogical strategies could be used to improve student literacy and language skills;³¹⁻³² and that Indian cultural identity influenced student perceptions of science and technology learning.³³ The findings in this category suggest that by taking into consideration student cultural beliefs and practices and using students' funds of knowledge, teachers could use student background as a bridge to help them assimilate new knowledge and skills to promote their intellectual growth. Teaching is comprised of many social interactions that are subtly intertwined with student non-school lived experience. Teaching in ways that attempt to integrate outside school live cannot replace or erase the primary imprinting that student bring to the classroom, but it can augment and build new capacities.

3.4 Synthesis 4: Participation, Student Characteristic and Programmatic Opportunity

This synthesis 4, suggesting that participation, student characteristic and programmatic opportunity are interrelated, included five studies and is comprised of three categories.

3.4.1 Category 6: Perceptions about the Importance of Beliefs and Classroom Participation

Two subsets comprised this category: language and culture mitigate parent involvement, but a lack of parental response does not equate to a lack of caring;³⁴ Participatory research methods that engage schoolchildren and staff yield the highest response rates for school-based studies and provide educational benefits for the entire school community.³⁵ In this category, the findings suggest that engaging families and communities in studies of student education can lead to building capacity and student agency.

3.4.2 Category 7: Needs of Sex Education and Violence Prevention Programs

Authors reported that sex education and violence prevention programs are needed in schools. Two subsets comprised this category: Barriers to providing comprehensive, adequate, and need-based sex education for Florida students;³⁶ Student mentors in violence prevention program were predisposed to intervening when they saw/heard/experienced violence.³⁷ Incidents of teenage pregnancy and student upon student violence were national trends that deserve school curriculum time. Findings in this category elucidate that curriculum is a dynamic entity and as such should be developed in concert with societal needs both at the local and national levels when these needs became apparent and sustained.

3.4.3 Category 8: Relationship between Student Characteristic and Identity

This category included one subset. The researcher discussed the relationship between age, social, and moral attitudes among younger and older elementary students.³⁸ The findings insinuated that curriculum must be developmentally appropriate for student cognitive, social and emotional level.

3.5 Synthesis 5: University Support, International Education, Evaluation, and Professor Specialization

University support (course, state and student), international education, evaluation, and professor specializations. This synthesis included four categories with 11 studies.

3.5.1 Category 9: University Support

Type of support that influence student successful academic development. This category consisted of four subsets: factors that supported graduation student matriculation;³⁹ the role of the first year college success course that increased multicultural awareness, social justice orientation and attributions for outcomes;⁴⁰ course design consideration for upgrading accounting education;⁴¹ how states could influence college access for welfare recipients through policy setting.⁴² The findings in this category suggested that administrators and instructors must be aware of student social, emotional, and cognitive needs. Curricular experiences should seek to promote student individual development while maintaining integrity and a commitment to institutional philosophy.

3.5.2 Category 10: Responsive Evaluation Practice and Data Collection Methods

This category included two subsets: identifying stakeholder evaluation need is crucial to the integrity of an evaluation report;⁴³ and using qualitative data collection technique resulted in the identification of the most frequent types of publications within two major physical education teacher education journals. Those studies were based on individual interviews, the use of moderate and passive participant observation, and non-interactive-document analysis.⁴⁴ Findings suggest that program evaluation is needed to determine the effectiveness of curriculum and to decide whether to keep it in was current form, discard or modify. Educational research studies were influenced by the research questions that were asked and by what researchers thought was essential to study. Periodically assessing the nature of research in a field might assist in developing and designing further inquiry that was increasing sensitive to the needs of participants.

3.5.3 Category 11: Significance and Ranking of International Education for U.S. and Non-U.S. Citizens

This category included one subset that revealed that there was an increasing number of international student on U.S. campus; that study abroad influenced student future career; analysis of studies about international education opportunities;⁴⁵⁻⁴⁸ Findings indicated the importance of international education. International education was crucial to building and maintaining a global economy and toward ensuring that students across America develop inter- and intra-personal global cultural competence so that they might successfully contribute to and compete internationally.

3.5.4 Category 12: Professor Specialization

Professors' areas of research interest and teaching is shaped by their disciplinary specialization. This subset of the articles pointed out how professor disciplinary specialization shaped ideological perspectives.⁴⁹ The practical consideration was that a professor's ideology was shaped individually and by no means represented the range of ideologies that were available. Students were advised to experience professors across the spectrum of ideological influence.

IV. Discussion, Limitation, & Implication

4.1 Discussion of Findings

The purpose of this study was to provide a synthesis of findings from a database of quantitative emancipatory research studies and to elucidate their implications for practice by conducting systematic critical appraisal. While analyzing the findings of these studies, five overarching descriptions emerged including: agency in community health; instructional practice and student engagement; learning experiences impact student

performance; how participation, student characteristics and programmatic opportunities; and international education, evaluation, and professors' specialization.

From the above research results, we have concluded the following implications for practice. First, the cooperation of social workers and educators along with a shared awareness of cultural sensitivity was a necessary condition to build effective and harmonious delivery community health services. Therefore, effectively combining social service and school education could improve the level of community service, as well as help students use what they have learned in school to enhance their social responsibility while meeting social needs. Second, the results also indicated that in daily teaching and learning activities, students' voice should be fully considered to facilitate their active engagement in learning and to improve educational outcomes. Meanwhile, this idea should be given sufficient consideration while preparing pre-service teachers. Also, enhancing the depth and quality of teacher-student interactions was likely to promote the calibre of teaching quality and the student achievement. Third, the research results showed that providing a variety of learning experiences was likely to improve students' skill acquisition. In particular, students' cultural background and family support should both be taken into account when planning for instruction. For instance, if educational strategies were culturally responsive to students' backgrounds then their achievement was likely to increase more quickly than if teaching is not responsive. Fourth, while designing course, topics that held implications for the health and welfare of society then should be considered even if they were perceived to have less academic relevancy. For example, sex education and violence prevention should all be covered in teaching activities to maximize student movement towards productive adult citizenry as well as mental, physical, and emotional health.³⁶⁻³⁷ Fifth, schools should support their students by ensuring timely graduation, persistence in school and adjustment to new settings. For instance, factors supporting degree completion and retention included a first year success course that helped student acclimate to academic life. Other activities included career development and the provision of international educational experiences that helped students develop global awareness. Making a professor's educational style or ideology transparent could also assist students' intellectual growth and study habits.⁵⁰

4.2 Limitation

The 45 articles chosen in this review were all based on publications that showed evidence of providing evidence of ethical approval by the appropriate institutional review board. Reliance on this facet as a criterion led to excluding studies that otherwise might have been included in the database. Additionally, only those studies that provided evidence of credibility (unequivocal, credible) were analyzed. Articles with low credibility (not supported) were not selected for this study. There was little doubt that articles with high credibility were more convincing.⁵¹ However, some of the articles with low credibility might also have had important value. Only using high quality papers, may have led to some publication bias.⁵² When the articles with high credibility were included, it meant only the voice of particular researchers and reviewers were considered. Perhaps future syntheses of emancipatory research should include a supplemental analysis, including those articles with low credibility and a list of their related limitations. Secondly, none of the 45 articles in the synthesis groups focused attention on academic achievement of minority students suggesting that this one arena in which it was still needed.

4.3 Implication for Future Research and Practice

4.3.1 Systematic Appraisal Practice can be used for other Syntheses

Quantitative research mainly focuses on the statistical significance of data. Researchers only focus their attention on specific data, but neglect to stress the substantive content of research results and its significance for practical application. The statistical significance, indeed, is one of the important factors in quantitative research. However, the significance of single research studies is affected by various factors. By way of example, under the same subject, different selections of tested samples, or different research periods can lead to quite different statistical significance. Therefore, it is quite important to explore and examine more all-inclusive research methods that are applicable to quantitative research. In recent years, research based on a meta-analysis of critical thinking showed that statistical significance is not the only standard to evaluate research effect. In this regard, the emancipatory research method can render more comprehensive practical conclusions by integrating research results among different studies.⁵³⁻⁵⁴

The quantitative research method in a conventional sense requires that researcher experiment, investigate and/or acquire data first-hand. However, besides collecting and analyzing first-hand data, researchers also can adopt this approach to analyze, compare, and integrate the existing studies to take advantage of the rich information in it to yield conclusions that are more practical.⁵⁵⁻⁵⁶ From this perspective, emancipatory research method saves academic cost and utilizes resources more efficiently to explore larger numbers of studies and render academic value from limited information.

Compared to other quantitative analysis methods, the emancipatory research method is more systematic, in that it can provide an integration of otherwise isolated study findings. Even with high statistical significance, an isolated study can only cover particular but narrow outcomes while the emancipatory research method can offer a synthesis of studies with a variety of methodologies and evidence. In this sense, emancipatory methods produce a different type of insight than that which is typically available from quantitative only findings. The emancipatory research method focuses more on transparency, congruity, and representativeness of the finding. Transparency is revealed because the researcher is beholden to share her or his philosophical perspective and how s/he situates herself culturally or theoretically. Evidence of congruity between stated philosophical perspective, methodology, the research questions/objectives, the methods used to collect data, the representation and analysis of data, and the interpretation of the result is expected. Representativeness of the findings is addressed by providing evidence of the adequacy to which participants' voices are depicted.

4.3.2 Teaching Emancipatory Research Methods in Graduate School

It is critically important to promote a more extensive application of emancipatory research methods in graduate teaching. First, with this method, students can learn how to independently, summarize, and provide systematic practical knowledge by analyzing existing literature, which in turn may evoke deeper thinking about the perspective of culture.⁵⁷ It has significance for stimulating students' enthusiasm for learning and training in independent learning. In addition, graduate teaching is different from undergraduate education. Future researchers and academic professionals need to acquire a varied repertoire of sophisticated skills in synthesizing study findings.⁵⁸ Compared with traditional review methods which are limited to a specific topic or single methodological focus, a systematic review of existing research evidence can lead to a different type of comprehensive analysis highlight potential opportunities in both practice and academia for further research, and make valuable contributions at both the theoretical and practical level.^{55, 59, 60} Therefore, learning this research method has broad applicability in developing a more comprehensive and integrated understanding of research evidence. Compared with other discrete and perhaps unsystematic learning experiences, the critical appraisal used in analysing this body of emancipatory studies can help students form more complete and diverse understandings of available published findings. Moreover, for students who have no personal contact with a subject that is difficult for them to personally, this synthesis can allow them to develop a more complete understanding of existing studies without reading each one. Through conducting and reading syntheses, students can acquire a solid overview to effectively understand a database of studies. This process can guide students in forming their own viewpoints with the aid of others' comprehensive analyses. Learning how to use critical appraisals tools is essential to many disciplines such as the health professions and social sciences. With regard to our specific use of the JBI method, the only difference notable in this study is that we did not use of the meta-aggregative analysis as a tool for quantitative inquiry, however Steps 2 and 3 provided excellent tools for extracting findings for this dataset.

4.3.3 Implication for Future Education

Findings from this study covered a wide range of practice related ideas, including approaches to teaching, course design, teacher preparation, and international education. Generally speaking, the conclusion developed pertains to the following three ideas.

First, course design and teachers' program preparation should closely represent contemporary societal needs and be adapted in response to social culture. For instance, given the influence of globalization international education should be reflected in the course design. In addition, because education is one kind of cultural phenomenon, schools should seek ways to effectively communicate with different social and cultural groups, model respect for cultural differences, and give consideration to the characteristics of various cultures.⁵⁷ Taking these actions can render a triple-win situation by celebrating the quality of teaching provided in schools, recognizing students' academic achievement and signifying an acceptance of design rich and diverse teaching activities.

Secondly, teaching activities should acknowledge students' personality and different cultural backgrounds. Learning experiences should stimulate students' enthusiasm to learn and increase their efficiency in learning. For example, when it becomes age appropriate, students can be invited periodically to participate in course design and in setting the score proportions of their assignments and tests. This will enhance ownership for learning and increase their understanding of institutional conventions.²⁹ For students with different cultural background, it might catalyze enhanced communication and parent/community involvement that also contributes to student investment in their learning.

Third, current social events should be effectively integrated into teaching. The final goal of school education is to train students to exercise comprehensive and practical talents valuable to the society.⁶¹ Therefore, in daily teaching, the integration of pressing social issues matters a lot. For example, sex education and education about violence and crime prevention should be better implemented in schools.³⁶⁻³⁷ In the meantime,

schools and social institutions can jointly hold service-learning programs, to help students effectively apply theoretical knowledge into practice so that they can recognize outcomes related to unifying moral knowledge and practice.⁶²

V. Conclusion

After effective resource screening, systematic analysis and integration, the emancipatory method used in this study made full use of existing research conclusions, to develop greater academic value with limited resources. When used in quantitative research, the emancipatory research method focuses on researchers' viewpoints, the credibility of research conclusions, and the contribution of research to culture, society, education and other aspects, which is a complement to the field of quantitative research.

Emancipatory research methods inherently appreciate that knowledge of others is dependent upon knowledge of self. These methods also thwart efforts to privilege some positions over some others and the perpetuation of multiple and conflicting exclusionary tactics that have been used to characterize others' behavior. Use of this method resists the temptation to have the researcher's interpretation become the single, unquestionable conclusion and to become the sole authoritarian voice about others' because the researcher and the researched work together to consider the veracity of the findings.

The findings in this study provided considerable information about publications between 2000 and 2011 that met JBI criteria. The synthesized findings from these studies provided practical applications for educators and researchers about teaching, conducting research, and demonstrate why it was important to engage participants in research beyond simply engaging them to acquire data. This study also makes the case for why it is essential that graduate schools seriously considered the importance of teaching emancipatory research methods at the collegiate level.

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