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An Examination of the Completion Rate of Masters Programs at Makerere University Business School

Samuel Eyangu[1], Vincent Bagire[2], Moses Kibrai[3]

[1]Department of Accounting, Makerere University Business School, Kampala, Uganda
[2]Department of Business Administration, Makerere University Business School, Kampala, Uganda
[3]Graduate Research Center, Makerere University Business School, Kampala, Uganda
Email: bagirev@yahoo.com

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Abstract

This study was carried out to examine the completion rate for masters' degree programs at Makerere University Business School. We investigated the delay in research, teaching schedules, administrative processes and students' own challenges as possible limitations. The study relied on opinion from former students on possible strategies which can be put in place to improve completion. The study examined the masters of Business Administration (MBA) and the Msc. Accounting and Finance (Ms.AF). The study was cross sectional and used both qualitative and quantitative data. A sample size of 211 students was used covering those who had completed their masters within a two-year period and those who were not able to complete in the same period. Findings revealed that the completion rate of masters program was still very low. Delay in returning the research comments both by external examiners and the Graduate and Research Centre office was found to be the major cause, among others. This finding had support in the literature. The study recommends to management to improve the research and teaching environment.

Keywords

Master of Business Administration, Master of Accounting and Finance, Graduate Study, Research, Teaching, Business School, MBA Completion, Higher Degrees, Uganda

1. Background

Programme completion and timely graduation have become increasingly important policy issues for many universities and governments (Murphy & Welch, 1993). Graduation rate is one of the aspects that measure institu-

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tion's effectiveness (Hebel, 1999). Students' completion rate is the ratio of the total number of students successfully completing in the last year of their programme in a given year to the total number of students of official graduation in the population (World Bank, 2004). Not completing a programme on time increases the cost of doing it due to the hidden costs which are always incurred by both the students and the university. For instance, students are charged extension fees, while university's resources like libraries and research supervisors become overused due to the backlog of students who must be cleared to be able to graduate (Makerere University Higher Degrees joining instructions, 2004; Tetty, 2010). However, for one to complete a master's program on time, there is need for him/her to manage research activities properly. The motivation of this study was to examine the completion rates at Makerere University Business School following anecdotal evidences that many students were delaying on their master's programs. We needed to draw empirical conclusions on the phenomena.

Many stakeholders have attached delay in completion of postgraduate courses to the research course unit as it influences one's ability to complete the program. In many cases, however, students and university management do not give it much attention. Makerere University Business School (MUBS) was established in 1997 by Makerere University (MUK) Establishment of Constituent Colleges' Order, with the mandate of offering business and management education to its clients, undertaking research and overseeing the Uganda Colleges of Commerce (UCCs). By 2009, there have been twelve masters' programmes run by MUBS, of which MBA (Master of Business Administration) and MsAF (Master of Science in Accounting and Finance) degrees are the pioneer programs. The MBA constitutes the greatest number of students (Makerere University Business School Annual Report, 2004/05). The Graduate and Research Centre (GRC) is the Faculty in MUBS which is responsible for overseeing the graduate programs of the school through teaching, research and publications (Makerere University Business School Strategic Plan, 2008/09). Ensuring timely completion of graduate students is one of the objectives of GRC. In line with the above GRC objective, at the 128th meeting of the Senate of Makerere University held in May 2007, the guidelines for Masters programs were reviewed. It was agreed that masters students should complete their programmes in two years time. This was re-echoed in the 89th GRC Higher Degrees Committee meeting which agreed that masters students should be engaged in series of research seminars at the beginning of Semester II of every academic year to enable them to appreciate the key research concepts as well as the new graduate research policy (Minutes of the 89th School Higher Degrees Committee, 2008).

MBA as a professional management degree programme admits students from differing academic backgrounds including business, management, sciences, arts, and humanities; whereas MsAF admits students from strictly a business and management background. Anecdotal evidence indicates that students without prior experience in research face more challenges in adoption to research and require extra effort to cope with the research demands. Although most students complete their course work on time, they take longer than expected to graduate because of not completing their research projects (Makerere University Business School, 2003, Minutes of the 79th and 80th Management committee). MUBS in a bid to improve the completion rate of masters students came up with strategies like increase in the number of research supervisors for masters' programmes, conducting series of research seminars for both postgraduate students and research supervisors, training of research supervisors, creation of research sub-committees to quicken the proposal review process and availing research guidelines to students (Minutes of the 89th School Higher Degrees Committee Meeting, 2008, Nassali, 2008). Similarly, in an effort to address the delay and speed the process of completion among postgraduate students, Makerere University introduced plan B type of research in 2001 besides the research dissertation. Plan B adopts a problem solving approach, based on applying/developing appropriate management instruments and is aimed at providing practical solution to an identified organizational problem. The findings should be of practical relevance and value to managers and organizations.

However, despite these efforts aimed at improving timely completion rate of postgraduate students, evidence shown in **Table 1** indicates that the completion rate is still low among the postgraduate students. An analysis of the completion rate of the masters students from the Graduate & Research Centre (GRC) database (2010) shows that on average, students on MBA who complete their programme on time stands at 13.8%, while for MsAF it is even much lower standing at 9.2%. On average masters students take four years to complete it and graduate as against the average of two years prescribed by most universities (Buckley & Hooley, 1988, Haksever & Manisali, 2000).

2. Synthesis of Related Literature

To develop insights into the problem of completion rate in masters programs we reviewed works of various

Table 1. Admission and completion rate for two selected programs.

Programme	MBA			Ms.AF		
Academic Year (AY)	Admitted	Graduated	Completion rate (%)	Admitted	Graduated	Completion rate (%)
2001/02	86	15	17.4	38	6	15.8
2002/03	71	13	18.3	33	3	9.1
2003/04	126	14	11.1	43	5	11.6
2004/05	122	12	9.8	67	4	6.0
2005/06	117	16	13.7	56	5	8.9
2006/07	128	15	11.7	53	7	13.2
2007/08	68	10	14.7	46	0	0

Source: Graduate and Research Centre.

scholars on the subject. There was a limitation of scarce literature from the local environment on masters programs; we benefitted from Wamala et al. (2012) and Wamala & Oonyu (2012). They studied the extended candidature plus non completion of a PhD and the completion time dynamics for masters students at Makerere University. They provide rich insights on the local context regarding the current study. Buckley & Hooley (1988) posited that a report by the Council of graduate schools in the USA gave the median period of a doctoral degree as 7.6 years against the minimum of four, masters degrees at 4 years instead of 2 years prescribed by most universities. Haksever and Manisali (2000) confirmed a similar position in their study of PhD supervision in the UK.

Buttery, Richter, & Filho (2005) stated that postgraduate education is a fundamental component of University life. However, concern has been increasing in recent years over the proportion of research students who fail to submit a thesis after a period of public or industrial support. One underlying cause cited for poor completion rates is, along with the problems of a personal nature, the documented dissatisfaction by students with the research experience and industry with the research outcome. Ssegawa & Rwelamila (2009) explained that low completion rate and long completion periods for research-based degrees have received considerable attention from scholars. The lack of hands-on skills in the research process on the part of students especially in the early part stages (research definition and design) and hence the need for a facilitative framework has been cited as the major challenge to research students. Smallwood (2004) emphasized the issue of low completion rate among undergraduates in the US noting that timely completion is a social asset. The deeper root of low completion rates is examined by Lovitts from a personal experience; she left two doctoral programs before finishing a third one, in sociology, at the University of Maryland in 1996 (Lovitts, 1996; Lovitts, 2001 in Gardner 2008). The reasons seem to be diverse and may not be attributed to a single factor. The low completion rate translates into high costs for the sponsors and the institution. Studies in US have further indicated that completion rates varied across the major disciplines, with humanities recording the highest compared to natural sciences (Gardner, 2008). The high completion rate in sciences was attributed to the manner in which students interact and bond as a faculty research community especially through laboratory sessions, as opposed to the research isolation found in humanities.

The reasons for the low completion rate of postgraduate programmes may be grouped into three major themes namely student deficiencies, inappropriate supervision process and inappropriate research environment. Studies have examined factors ranging from personal, academic and financial with no standard finding of which seems to influence completion ahead of the others (Gardener, 2008; Berelson, 1960 in Gardner, 2008; Wamala et al. 2012).

Excellent research depends on the combination of research facilities and a high quality, well-trained research workforce. It is important for Universities to continuously offer trainings to research supervisors and students for quality output to be achieved. The case for supervisor training has been made although not clearly emphasized (Skerritt and Roche, 1994; Anderson & Freeman, 1977; Hegarty & Johnston, 2008). Nevertheless some Universities (such as the University of Aalborg and the University of South Australia) have decided upon a compulsory training for all new PhD supervisors by providing duty statements, codes of practice and progress monitoring. Previous studies have noted indicators of supervisor effectiveness and supported independently by other re-

searchers over the years. For example, the importance of academic standing was highlighted by Moses (1994) and supervisory competence by Skerritt and Roche (1994), ESRC (2001), and Zhao (2003). Supervisor effectiveness is therefore, judged basing on the various indicators of supervisory style, competence, attitude and intellectual standing.

The main challenges in the research process among postgraduate students are articulated by Skerritt and Ryan (1994), as inadequate supervision in terms of experience, commitment, and time, emotional and psychological problems, students' intellectual and social isolation, their insecurity as to standards and lack of confidence in their ability to complete their theses within the specified time. This may lead to communication problems between supervisor and student. The role of the supervisor should therefore be like a super form of teaching and critical conversation (Knowles, 1999) and mentorship (Taylor, 1995). Supervisor motives may incorporate knowledge attainment, joint publications and recognition (self-esteem), each motive carrying different expectations of students (Hockey, 1996).

3. Methodology

The study focused on academic years from 2001/02. These were years for which concerns on completion delays scaled up in the public arena. The data that were readily available for our analysis were for a population of 468 students who were admitted in the academic years 2005/06, 2006/07 and 2007/08. The study used a cross sectional design. Two programs were selected namely Master of Business Administration (MBA) and Master of Science in Accounting and Finance (Ms.AF) because they have been run at the Business school for relatively a longer period of time than other programs. A proportionate sample of 211 was drawn using tables generated by Bartlett et al. (2001) comprising 141 MBA and 70 Ms.AF. Primary data was collected using a questionnaire constructed on a five point Likert type scale. The items covered the views on their delays and proposals for improvement. These were developed after reviewing the literature. We used expert validity on the instrument before using it for data collection. 110 usable questionnaires were received back giving a response rate of 52%. Secondary data was obtained from various records at the Graduate Resource center. Completion rate was based on the measures by Hebel (1999) of completion against enrollment. Analysis techniques were accomplished using SPSS.

4. Results

Year of Admission and Year of Completion

The results in **Table 1** below and **Figure 1** show the distribution of the respondents in terms of year of admission. Their completion was due within two years of the academic year of their admission respectively.

The results in **Table 2** as depicted also in **Figure 1** show that majority of the students on MBA and Ms.AF did not complete their program on time. On average, 86.2% of the MBA students did not complete while Ms.AF over 90.8% were still on the program after the two year period. Further analysis revealed that on average students took four years to complete their programmes. It is important to note that from records the Ms.AF have one year for class work and there after engage in research in the second year of their enrollment. On the other hand the MBA are engaged in class work for three semesters before beginning the dissertation project. The results indicated that the completion rate dropped sharply from 2001 before rising again in 2005. That of Ms.AF dropped suddenly again to zero while the MBA has maintained some rise.

5. Views on Challenges Students Face

The survey enlisted the respondent views on challenges that students face during their study time as affecting their ability to complete the program on time. The highest agreement in the factors was related to lack of proper guidance in research. They faced difficulty in problem identification, literature review and choice of methodology and supervision related reasons. The other challenges included were related to job demands, health, family and funding.

The respondents noted that there are a number of factors that contribute to the low completion rate of masters students in MUBS. The findings show that delay in returning the comments of the research reports by the external examiners is viewed to be the major cause for low completion rate. This is indicated by the mean of 3.97 and

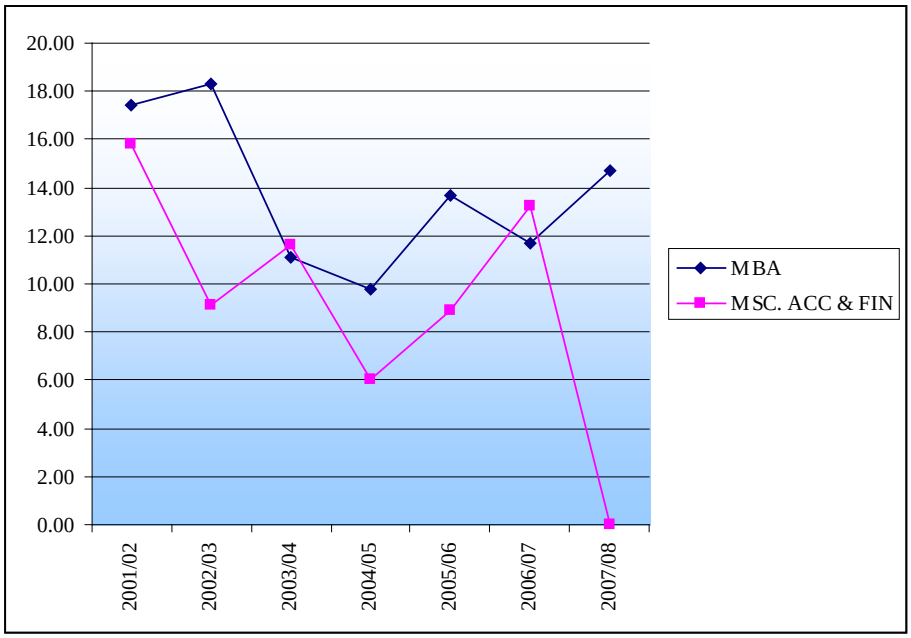

Figure 1. Graphical view of the completion rate for masters programs.

Table 2. Views on why students do not complete their studies on time.

Items rated as reasons for delayed completion	Mean range
High incidence	
Delay in returning the comments of the research reports by the external examiners	3.80 - 3.97
Personal weakness on the part of the student when it comes to research process	
Job workload and related responsibilities	
Transfers at work places to up-country stations	
Lack of commitment to research on the part of the students	
Slow process of reviewing proposals by supervisors/reviewers	
Delay in calling for viva voce meetings	
Moderate incidence	
Having two supervisors slows down the research progress	3.70 - 3.75
Slow process of giving feedback of the Committee to students	
Hectic study schedules during the semester sessions	
Getting better jobs and promotions at work in the course of the masters studies	
Low incidence	
Family Responsibilities	3.50 - 3.66
Relaxed University policies on enforcing completion requirements	
Lack of funds on the part of the students	
Health related problems	
Undependable supervisors	

a standard deviation of 0.87. It implies that delay in returning research comments to students lead to prolonged study period which eventually contribute to high backlog of students failing to complete their programmes on time. The results also show that lack of commitment to research by postgraduate students is a major cause for low completion. The study also revealed that lack of facilities like reliable internet and the study environment not being conducive contribute to low completion rate. The factor of supervisors was also widely mentioned; either not being supportive or where they are two not agreeing easily on the students work. Other factors were in the real domain of the students such as family responsibility, work responsibilities, funding and health, which all contributed to the low completion rate in the selected programs.

6. Approaches Adopted by MUBS to Improve Completion Rate

The study assessed the approaches adopted by the Graduate Resource center in attempt to improve the situation. We sought views of the respondents. The findings are in **Table 3**.

The table shows the views on the different approaches adopted by MUBS Graduate and Research Centre to improve the completion rate. The study noted that a number of strategies were adopted to try and improve the situation. The major one was introduction of type B research which does not involve academic rigor but is problem based. Those who do plan B research are not examined through the viva voce. Their dissertations are not sent to external examiners, the hitherto known stage contributing to the delays. GRC also started briefing students on the different types of research, subcommittees for plan A and plan B were set up so as to quicken the proposal review process. However, the findings from this study show that, these strategies have not improved the completion rate yet since they had been in place for a short term by the time of this study. For example the mean of 2.54 and standard deviation of 0.92 shows that respondents disagreed with the view that proposals are reviewed quickly. On a positive note, the respondents agreed that previous students' dissertations are available in the library for students doing research dissertations as indicated by a mean of 3.79. Respondents also agreed with the statement that research guidelines (booklets) had been availed to masters' students to facilitate the research process. The views on other approaches still provide strong reservations on how effective they will contribute to improving the situation.

Proposals for Improvement

The study sought views from the respondents on what more could be done by the school to improve completion

Table 3. Views on why students do not complete their studies on time.

Items	Mean range	SD
Previous students' dissertations have been availed in the library for students doing research.	3.79	0.98
Research booklets have been availed to students of all the masters programs.		
Students have been briefed about type A & B type of research.		
Students have been briefed about the penalties for failure to complete masters on time.	3.18	1.13
Students have been guided about the possible supervisors in their areas of specialization.		
Seminars are conducted for supervisors to update them of changes in research guidelines.	3.02	0.89
Relevant research text books are available in the library for students doing research.		
Seminars are conducted for students to guide them in research/dissertation writing.		
Comments are availed to students immediately after the proposal review meetings.	2.54	0.92
Proposals are reviewed immediately after submission to Graduate and Research Centre.		

Table 4. Suggestions for improving completion rate by MUBS masters students.

Item	Suggested strategies for improving the completion rate of masters programmes at MUBS
Research assessment	• Increase on the number of external examiners. • Subcommittees to approve students' proposals should be revitalized. • Set deadlines and penalties for students who fail to complete on time. • Train students on data analysis packages so as to enable students understand their research work better. • Review masters programme structures and merge some course units to create time for research. • Viva voce should be held promptly whenever external supervisors send reports. • Supervisor—student ratio be improved to handle the increasing number of masters students.
Library facilities	• Upload all the previous students' research on the database for easy access. • Up-to-date research books should be availed in the library. • Subscribe to the online international journals to access research articles. • Improve on the internet connectivity, availability and speed.
Teaching	• Improve on the teaching facilities for masters students. • Improve on the class room facilities for masters programmes. • Organize special classes/recess semester for finalists with retakes. • Improve on the institutional structure between Makerere University and Makerere University Business School.

rates among postgraduate students.

We did not focus on what the students should do in their domain. The results are clustered under key items as in **Table 4**.

7. Conclusion and Management Implications

The findings on completion rate of Masters Program in MUBS have far reaching academic and management implications. The study reveals that in general, completion among postgraduate students is very low. This finding concurs with previous studies of Buckley & Hooley (1988). The low completion rate is a challenge to MUBS image, graduates status and is straining to both students and the School. This has an implication of over stretching facilities and staff and low spirit to students. The challenges that were identified are manageable although some of them might be financially demanding. On its part, the school should streamline the research process. The available facilities should be appropriately used to enable those students who are keen to complete doing so in time. Strict guidelines will definitely change attitude of candidates who have taken policy laxity to their advantage. The existing staff capacity is capable of handling the workload; they need to be motivated to work within the existing functional facilities. On their part, students should be able to handle the challenges in their realm, like self motivation, family and work related demands. With the increasing computer usage in the country, students should find it easier to search for relevant materials, typeset their work and communicate with supervisors. Lack of relevant research skills is still a problem that should squarely be handled by management. There is no way the school will stand to be counted with academic staff who lack such skills and cannot help masters students. The skills of collecting and interpreting information and using knowledge in all its forms are a priority in a society. This is a profound knowledge base for higher education.

The efforts by the GRC so far have been commendable. There is a need for consistency and follow up. The implication of this holdup is making the students who were very serious with their research relax and lose the momentum. The observation by scholars that excellent research depends on the combination of outstanding research facilities and a high quality, well-trained research workforce is important in our conclusion. It is imperative for MUBS to continuously allocate resources and improve management of research for quality output.

We recommend more analytical studies to assess attitudes of both lecturers and students towards research and examine efficiency in managing the research function. The study may have been limited by methodological factors especially sampling approach.

References

Anderson, E. F., & Freeman, A. H. (1977). Graduate School Success of Black Students from White Colleges and Black Colleges. *The Journal of Higher Education, 48,* 294-303. http://dx.doi.org/10.2307/1978682

Bartlett, J. E., Kotrlik, J. W., & Higgins, C. C. (2001). Organizational Research: Determining Appropriate Sample Size in Survey Research. *Information Technology, Learning, and Performance Journal, 19,* 43-50.

Buckley, P. J., & Hooley, G. J. (1988). The Non-Completion of Doctoral Research in Management: Symptoms, Causes and Cures. *Educational Research, 30,* 110-120.

Haksever, A. M. and Manisali, E. (2000). Assessing Supervision Requirements of PhD Students: The Case of Construction Management and Engineering in the UK. *European Journal of Engineering Education, 25,* 19-32.

Buttery, E. A., Richter, E. M., & Filho, W. L. (2005). An Overview of the Elements That Influence Efficiency in Postgraduate Supervisory Practice Arrangements. *International Journal of Educational Management, 19,* 7-26. http://dx.doi.org/10.1108/09513540510574920

ESRC (2001). Training Guidelines 2001, Chief Executive's Foreword, Economic and Social Research Council, Swindon.

Gardner, S. K. (2008). Student and Faculty Attributions of Attrition in High and Low-Completing Doctoral Programs in the United States. *Higher Education, 58,* 97-112. http://dx.doi.org/10.1007/s10734-008-9184-7

Hegarty, C., & Johnston, J. (2008). Graduate Training: Evidence from FUSION Projects in Ireland. *Educational Training, 50,* 391-405. http://dx.doi.org/10.1108/00400910810889075

Hebel, S. (1999). Virginia Board Wants to Link State Aid to Colleges to Their Performance in Key Areas. *The Chronicle of Higher Education,* A33, My 28 1999.

Hockey, J. (1996). Strategies and Tactics in the Supervision of UK Social Science PhD Students. *Qualitative Studies in Education, 9,* 481-500. http://dx.doi.org/10.1080/0951839960090409

Knowles, S. (1999). Feedback on Writing in Postgraduate Supervision.

Lovitts, B. E. (1996). Who Is Responsible for Graduate Student Attrition—The Individual or the Institution? Toward an Explanation of the High and Persistent Rate of Attrition. *The Annual Meeting of the American Educational Research Association*, New York, 8-12 April 1996.

Makerere University Business School (May 2004/2005 and 2007/08). Graduate and Research Centre Strategic Plan.

Makerere University Business School (2003). Minutes of Management Committee Meetings (*79th and 80th Management Committee Meetings*).

Makerere University Business School (2008). Minutes of the School Higher Degrees Committee Meetings (*89th School Higher Degree Committee Meetings*.

Makerere University (2004). Higher Degrees and Postgraduate Diploma Joining Instructions. Kampala: School of Postgraduate Studies, 4.

Murphy, K., & Welch, F. (1993). Inequality and Relative Wages. *American Economic Review, 83*, 104-109.

Moses, I. (1994). Planning for Quality in Graduate Studies. In O. Zuber-Skerritt, & Y. Ryan (Eds.), *Quality in Postgraduate Education* (pp. 3-13). London: Kogan Page.

Nassali, S. (2008). *Attitudes towards Research and Intention to Carry out Research: A Case of Postgraduate Students at Makerere University Business School*. MBA Dissertation, Kampala-Uganda: Makerere University.

Skerritt, O. Z., & Roche, V. (1994). A Constructivist Model for Evaluating Postgraduate Supervision: A Case Study. *Quality Assurance in Education, 12*, 82-93. http://dx.doi.org/10.1108/09684880410536459

Ssegawa, J. K., & Rwelamila, P. D. (2009). The Research Skill Factor as a Cause for High Postgraduate Attrition Rate. *Journal of Engineering, Design and Technology, 7*, 293-322. http://dx.doi.org/10.1108/17260530910998703

Zhao, F. (2003). Postgraduate Research Supervision: A Process of Knowledge Management. *Quality in Higher Education, 9*, 187-197. http://ultibase.rmit.edu.au/Articles/may01/zhao1.htm

Smallwood, S. (2004). Doctor Dropout. *The Chronicle of Higher Education*, 16 January 2004, 19A.

Taylor, P. (1995). Postgraduate Education and Open Learning: Anticipating a New Order. *The Australian Universities Review, 38*, 28-31.

Tetty, W. (2010). *Challenges of Developing and Retaining the Next Generation of Academics: Deficit in Academic Staff Capacity at African Universities*. Status Report, The Partnership of Higher Education in Africa.

Wamala, R., Ocaya, B., & Oonyu, J. C. (2012). Extended Candidature and Non-Completion of a Ph.D. at Makerere University, Uganda. *Contemporary Issues in Education Research, 5*, 174-184.

Wamala, R., & Oonyu, J. (2012). Completion Time Dynamics for Master's and Doctoral Studies at Makerere University. *Contemporary Issues in Education Research (CIER), 5*, 131-137.

World Bank Group (2004). *Global Data Monitoring Information System*. Washington DC: The World Bank Group.

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Scientific Research

Effectiveness of Parent Education through Mobile Technology in Afghanistan

Qayumi Shahnaz[1], Pachev George[2], Vuong Son[3], Hazrati Shabnam[4], Sahar Habib[4], Jonathan Schroeder[4], Qayumi Karim[5]

[1]Partnership Afghanistan-Canada, Vancouver, Canada
[2]Faculty of Pharmaceutical Sciences, University of British Columbia (UBC), Vancouver, Canada
[3]Faculty of Computer Sciences & Technology, UBC, Vancouver, Canada
[4]Faculty of Education & Psychology, Center of Excellence for Innovation and Research, Kabul University, Kabul, Afghanistan
[5]Center of Excellence for Simulation, Education and Innovation, UBC and Vancouver Coastal Health Authority, Vancouver, Canada
Email: sarah@can-health.org

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Abstract

Neglect of children's holistic development between the ages of 0 - 7 may have serious consequences on society, particularly in post-conflict and/or developing countries. Based on our previous study and analysis of available literature, we utilized an M-Learning technology called LIVES (Learning through Interactive Voice Educational System) and designed a curriculum utilizing modern theories of multi-dimensional child development. The curriculum was implemented for 54 Afghan families. A pre- and post-multiple choice test was used to assess and compare knowledge of participants. Evaluation questionnaires and individual interviews were conducted to assess satisfaction levels with the program. Results demonstrated that LIVES was a suitable technology for this type of curriculum development and delivery. Curriculum on this subject was highly praised by participants and improved their knowledge significantly ($p > 0.05$). As an asynchronous education tool, LIVES is highly effective and less costly for mass education, particularly for those who are challenged by illiteracy and those populations isolated by geography or cultural relations, such as young mothers (girls in early marriages), and women in a male dominated society.

Keywords

Pre-School Education, Afghanistan, Parenting

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http://dx.doi.org/10.4236/ce.2014.522215

1. Introduction

Child development is one of the most important issues across the globe (Arnold, 2004). In particular, it is a subject of great discussion for the United Nations and the international community in support of the developing world (Ki-Moon 2007). The international community has created many programs and initiatives to support selected age groups of children in developing countries; in particular, a great deal of attention has been paid to school age children (Qayumi, 2014). However, initiatives for the education of preschool age children have been very limited, and are mainly aimed towards nutrition (UNESCO, 2007), health and prevention of disease (UNESCO, 2007). It is evident from the literature that little attention has been paid to multi-dimensional initiatives that cover the social, emotional, physical, cognitive, and linguistic development of children. The previous study (Qayumi, 2014) also confirmed that Afghan parents are open to receive such education through innovative technologies. The use of technology for this type of education is particularly of value to those who have literacy barriers. Therefore, our objectives were threefold:

1) To identify an innovative technology capable of crossing literacy barriers and delivering the knowledge to all those in need.

2) To develop a curriculum for multi-dimensional child development (ages 0 - 7) using modern developmental theories.

3) To assess the effectiveness of the developed curriculum delivered by innovative technology on the improvement of knowledge for Afghan parents.

Technological Solution

To realize our first objective we implemented LIVES technology. LIVES is an acronym for Learning through Interactive Voice Educational Systems. This technology was developed at the University of British Columbia's department of Computer Sciences and Technology, and is licensed to Partnership Afghanistan-Canada (PAC) free of charge to conduct not-for-profit work, including this study.

2. Introduction to LIVES

Technological advances such as M-learning (education via mobile phones) have provided new opportunities for the delivery of informal as well as formal education, with all the key characteristics of a curriculum still intact. LIVES is an end-to-end education solution that delivers distance learning via mobile phones to subscribers anytime/anywhere. Mobile phones are an ideal medium to deliver education due to their widespread use across rural and urban centers. LIVES enables not only the automation of distance learning materials, but also acts as a catalyst for socio-economic change across communities. LIVES has been developed under the guidance of Dr. Son Vuong and other researchers at the Network and Internet Computing Lab (NIC), and is currently being commercialized by a UBC spin-off company named LIVES Mobile Corp.

LIVES takes advantage of the proliferation of mobile devices found even in impoverished locations. The system is based on voice interaction with students via phone calls. During these calls, the student receives one to two minute audio lessons, then answering related multiple-choice questions. The call is originated by the system, not only as a way to entice the student to receive the lesson, but also because in most countries cell phone users do not pay for incoming calls. This means that aside from acquiring a basic cell phone, the students will not incur any additional costs to access the system.

LIVES is a set of optimized computers equipped with specially designed open-source software, with the ability to deliver learning content over the phone. The first step is to register the student, including his/her name and associated telephone number (the calling channel). The student registration process also takes note of the time periods during which the student will be available, with the system scheduling calls to each student only during the specified availability period, or when a lesson or question becomes available. A web interface is being planned to simplify this process in the future.

Due to the nature of this VoIP system, there is no restriction as to what kind of phone can be used by the student. The system has been tested not only with cell phones, but also with regular landlines and even VoIP phones and VoIP services such as Google Talk. However, additional features planned for the future, such as text or multimedia messages, will require a cellular phone. Instructors create lessons and questions and provide audio files, then submitting them to the communication server. These files have to be converted to GSM format, which is a

commonly used format for telephony. The system also provides an automated recording server, which can be accessed by calling a specific phone number (currently accessible only through a VoIP connection). This server will record the messages and convert them to the proper format.

The system will call each student at the pre-scheduled time. If the call is unsuccessful (the line is busy, the student doesn't answer, or the number is unavailable), another call is scheduled for the future. If the call is successful, the student can listen to available unheard lessons as well as to lessons that were previously heard. While a lesson is being played, the student can rewind, forward or pause. The student can also listen to any unanswered questions, both in new lessons and those previously heard, which they may have skipped. Questions are in multiple-choice format, and the correct answer is inputted by the student using their phone's numeric keys. Optionally, an instructor is able to provide an audio explanation to the student regarding why a specific answer is the correct one.

The system can call several students simultaneously, contingent on hardware and network constraints. Each student has an individual session, and one student's answers do not affect other students, even if they are simultaneously in a call. The system is also capable of handling each call in a different language, based on the student's predefined language preference, as long as all system audio files and lessons are available in that language.

The LIVES database system stores statistical data and allows for information retrieval specific to each student, and questions and lessons can be designed based on that student's feedback. The system will keep all data concerning the number of times a student tried to answer a question before submitting the correct answer, as well as timestamps for the completion time of each lesson and question. A simple statistical web interface is provided, with basic information like the percentage of complete lessons and correctly answered questions for each student, and summarized results for each question.

Thus far, LIVES has been field tested in India, Vietnam and tests are underway in several other countries. LIVES will be a fantastic catalyst for social-economic change in Afghanistan, and will deliver on multiple levels including child education, health, agriculture, and English as a Second Language. This technology is licensed to PAC for charitable delivery of knowledge without financial incentives.

3. The Parenting Curriculum

The curriculum for this project was designed by (senior author) Shahnaz Qayumi, an early childhood pedagogue and psychologist, specializing in the field of child development for children aged 0 - 7. Curriculum was translated into local languages (such as Dari) used by participants in this region. For the purpose of this pilot study, Afghan families in and around the city of Kabul were randomly identified and only those who volunteered were included in the study. The only inclusion criterion for the project was for the families to have at least one child between the ages of 0 - 7. Differences based on gender, language, age and education were not taken into consideration in this study.

The study was conducted Monday-Friday for 40 days (July 18-Sept 12) under the direct supervision of lead investigator Shahnaz Qayumi, with two research assistants (Shabnam Hazrati and Sahar Habib) as well as five trained instructors and several assistants to work in the field. On completion of this study, evaluations of participants and instructors were performed to identify issues and shortfalls of the study. Data was collected, stored and analyzed using a statistical package. A simple test was used to deduct the degree of significance, with a 95% level of confidence ($p < 005$).

3.1. Goals

The purpose of this study is to evaluate the effect of the M-Learning Project on participants' knowledge of their children. We also sought to evaluate participants' (both teachers and learners) satisfaction with the program and elicit their suggestions for changes to the program (in terms of process or content.) The following hypothesis and research questions guided the inquiry:

- We hypothesize that modern theories of child development delivered through innovative technology can be effective in increasing parental knowledge, regardless of literacy levels.
- We hypothesized that participants' overall knowledge about their children's development would increase from pre- to post-test.
- How consistent is the overall change in knowledge across the domains of physical development, cognitive

development, language development, social/emotional development and knowledge about general principles of development?
- How satisfied were participants with the process?
- What were the identified strengths and opportunities for improvement of the program, as identified by teachers and participants?

3.2. Methods & Design

To evaluate the effect of the program, we looked at how much participants' knowledge about child development changed by comparing their answers on a test administered at the beginning of the program to their answers on a similar test at the end of the program. In addition, we asked for feedback from both participants and teachers who assisted in the field regarding their satisfaction with the process and possible areas of improvement. Feedback was gathered after completion of the post-test.

3.3 Participants

Representatives from 54 households participated in the study. These were volunteers from a previous group of 224 households who participated in the needs assessment for the program and expressed interest in learning more about child development and childrearing. The only inclusion criterion was that there be at least one child in the home in the age range from newborn to seven-years old. Of the 54 volunteers, 49 completed the pre-test and 52 completed the post-test.

3.4. Instruments

The knowledge tests consist of items randomly drawn from a bank of items prepared on the basis of the lessons. The pre-test, made longer in order to increase precision, included 40 items. The items represented 5 curricular areas: physical development (8 items), cognition (13 items), language (6 items), social/emotional (10 items), and general principles of development and parenting (3 items). The post-test included 25 items pertaining to: physical development (5 items), cognition (8 items), language (3 items), social/emotional development (4 items) and knowledge of general principles of development and parenting (5 items). Each item consisted of a statement about child development and/or parenting. Participants indicated their agreement with the statement, disagreement, or chose "do not know". At scoring, which yielded a percent-correct score, a correct response was assigned a score of 1 and incorrect responses and "do not know" responses were scored as 0.

Evaluation of participants' satisfaction consisted of open-ended questions on strengths of the program and 18 ratings covering the following areas:
- Self-assessment of improvement
- Logistics of the program (communications & technology)
- Content
  - Balance of theoretical vs. applied content, real world application of content to local participants, relevant to expectations.
  - Organization, workload, difficulty of content and quality of presentation.
- Instructors and support staff.
- Willingness to participate in similar programs in the future.

The evaluation by instructors consisted of six open-ended questions on the following topics
- Instructors perceptions of learner satisfaction;
- Acceptance of technology;
- Quality of the program;
- Programs relevance to local cultural context;
- Recommendations for improvement;
- Suggestions for future applications of the technology.

4. Procedure

First, instructors conducted a pre-test on the childrearing knowledge of all participants in the study. Registered participants received calls from the server at the designated time of their choosing. The curriculum developed in

LIVES was then delivered to registrants via cell phones. Participants could listen to specific parts of the curriculum (modules) as many times as they wished until they were able to grasp the content of the module. Each module included a multiple-choice test to be answered after participants were confident on their acquisition of knowledge. Multiple-choice questions were answered by pressing numerical buttons on phone keypads. Some students did skip the exam in some modules, however, at the end of the course the system identified the specific modules each participant skipped and they were contacted to complete the exam. In the end we were able to complete the study with all the participants.

After completion of the course, a post-test on the knowledge acquired was conducted for all participants. All pre- and post-test questions were logged in a database from which the computer chose the questions randomly. Seven instructors were on call 20 hours per day to direct participants and help solve any accessibility, technological or logistical issues. These instructors also conducted the pre- and post-tests, however they were not allowed to assist participants with their core knowledge.

4.1. Analyses

Common indices of item-quality (difficulty, discrimination, response-options distributions) were used as quality-control for this measure. Reliability of the tests was evaluated by means of Cronbach's alpha (estimate of reliability through internal consistency).

Related sample tests (t-tests) were used to compare the aggregated scores for each domain and the overall scores of the pre- and post-tests. Independent sample t-tests compared the average number of "do not know" responses.

Qualitative comments by participants and teachers were summarized by topic and included in an overall description of the evaluation of the different aspects of the project.

Percentages of participants selecting respective response options were used to analyze the evaluation ratings from instructors and participants.

4.2. Results

Item-analyses helped identify 2 items (one at pre-test and one at post-test) which were unclearly formulated. These items were subsequently dropped from calculation of the overall test scores and domain scores, thus reducing the pre-test to 39 items (social/emotional domain—to 9) and post-test to 24 items (cognitive domain—to 7). Another 3 items (post-test only) had a wrong answer key and were re-scored. Reliability was estimated at 0.77 at the pre-test (39 items), 0.43 at post-test (the relatively low value is probably due to the small number of items, 24), and 0.72 for the combined item-set (63 items).

Table 1 lists the descriptive statistics and the results from the repeated measures (t-tests) comparing the change from pre-test to post-test for the overall scores and for each domain.

The average number of "do not know" responses at the pre-test was 6.38 (SD = 4.32) per item for 49 participants. At post-test, this number was reduced to 0.56 (SD = 0.87). Comparison of these numbers by means of t-test for independent samples, indicated that their difference is significant, $p < 0.01$.

Table 1. Descriptive statistics and t-test results for the pre- and post-tests by domain comparisons.

Domain	Pre-test			Post-test			$t_{(48)}$	p
	Items	Mean	SD	Items	Mean	SD		
Overall	39	60	14.08	24	85	7.46	10.52	<0.01
Physical	8	46	16.18	5	94	10.96	17.78	<0.01
Cognitive	13	60	18.77	7	74	13.74	3.94	<0.01
Language	6	69	21.15	3	71	23.21	0.33	n.s.
Social/emotional	9	59	19.04	4	93	11.15	10.06	<0.01
Principles	3	88	17.60	5	92	13.49	1.31	n.s.

Note: N = 49.

4.3 Evaluations by Participants

All participants (100%) agreed or strongly agreed that the M-Learning program improved their knowledge base and parenting skills. Overall, satisfaction of logistics of the program were high (ranging from 87% to 94% in the categories of above average and excellent). Approximately 1/3 of participants indicated however experiencing difficulties specifically with their telephone services. Over 90% of participants agreed or strongly agreed that the content was excellent, relevant to their expectations and applicable to their real world experiences. Workload, pacing and quality of the presentation were judged to be at the appropriate level by over 80% of participants. 100% of participants rated their instructors and support staff as Excellent. All participants (100%) expressed that their willingness to participate in similar programs in the future.

4.4. Evaluations by Instructors

There was unanimous consensus among instructors that the project was a great success. It was well-accepted by all participants, with specific comments on the content of the learning materials that directly related to the levels of knowledge of participants. They indicated that this project is a technologically advanced and unique project targeting illiterate and semi-literate populations of Afghanistan, with a very low cost and a very high impact of efficacy.

For example, "*… they were suspicious when we approached them to do the program, but the most interesting part of our work was when we were doing the evaluation of the program. Our team had to go again to visit the families, and get their feedback. Parents welcomed us so warmly, and happily that we were so much touched with their affectionate behavior…*" "*… the most difficult part of our work during the survey was when some men in the families faced us. They were suspicious, and weren't ready to provide their wives phone numbers, giving us theirs own cell number. When the program started, the man who had a hard time giving his wife's phone number, he voluntarily called us and gave us his wife's phone number, saying 'this is a very suitable program for my wife'…*" (quotations taken directly from instructor evaluation forms).

We also learned that after 2 - 3 lessons, the learning sessions turned into an event within the family, placing the telephone in the middle of the room on speaker so the whole group could listen and participate. At times they even invited their neighbors and friends in to join them, discussing the issues in the lessons over a cup of tea afterwards.

With respect to the shortfalls of the project, both instructors and learners mentioned the delays in the start-up phase of the project, which triggered some anxiety before beginning the program. According to one instructor, one of the learners called and said that she dreamed about the program the night before. In addition to the delayed start, instructors also indicated that often some of the parents (participants) could not achieve the proper quality of sound. Instructors also recommended that the scheduled time of delivery did not reflect the daily routines of Afghan people. Some participants may not have strictly scheduled days, therefore for some participants it makes more sense to not have a scheduled time but to leave it up to the learner to choose. In other words, this must be a student-centered program.

5. Summary of Effectiveness of Results

In summary, the pre- and post-tests demonstrated that participants significantly improved their knowledge on the physical, cognitive, social/emotional development and related child-rearing practices. The evaluations of participants and instructors demonstrated that the program and the technology are well-accepted by all participants in this sample. Our results demonstrated that LIVES, as an innovative technology, is capable of crossing literacy barriers and delivering knowledge to all those in need. In addition, these results also demonstrated that Afghan people generally have a desire for knowledge acquisition and structured curricula in a highly sensitive area of knowledge and the use of modern theories of child rearing is well accepted by all Afghans in this study.

With respect to the recommendations received by instructors, indicated shortfalls were mainly due to the fact that the servers broadcasting the learning materials was located in the United States and the program was delivered long-distance. Other reasons for the shortfalls were the distribution of the program through a variety of cell phone companies in Afghanistan, all with different technologies and area coverage. These shortfalls will be seriously considered, and we believe they can be eliminated when the program is fully launched in Afghanistan in partnership with a local cell phone company, where the servers will reside locally. The recommendation and

suggestions on the time of delivery were also valuable to us and will be considered when the project is fully launched in Afghanistan.

Overall Discussion

Technological advances in M-Learning (learning through mobile phones) have made it possible for knowledge dissemination to those who are disadvantaged by distance from cities, illiteracy and other factors. Several M-learning technologies have been developed at this time, however LIVES technology has many advantages, such as its simplicity for users. The technology is licensed to PAC (Partnership Afghanistan Canada—a Canadian not-for-profit organization working to improve global education) without charge, and overall costs of the technology are very low while capable of delivering complex theoretical subjects through a simple voice activated system. Perhaps the greatest superiority of this technology over others in the field is that it not only encompasses curriculum delivery but also curriculum development and curriculum assessment tools, which are built right into the LIVES system. LIVES has been used in a pilot study project, designed and implemented by the Commonwealth of Learning, for improving the livelihood and status of women in India by forming business opportunities through raising goats. The main and most important value and benefit of LIVES is that members who use the system for non-profits can share curriculum developed in the system amongst various partner institutions. We are very proud to say that this child development curriculum is now being translated into Arabic and Vietnamese to be disseminated in countries in the Middle East as well as Vietnam. It is also important to mention that although asynchronous methods of learning, such as M-Learning, are front-loaded and can be expensive to start; they are most appropriate for mass education. It has been proven that the cost of technology in this method of delivery becomes negligible when used for mass education (8). Therefore, it can be argued that synchronous methods of delivery such as seminars, lectures, brochures/pamphlets and others used by many organizations would be less effective and more costly.

Overall, the semi-quantitative evaluation on the satisfaction of participants was extremely positive from all 54 families evaluated, with only one family not finding the curriculum useful. Results of the efficacy of this curriculum delivery, after the comparison of pre- and post-tests, demonstrated that parents significantly ($p < 0.05$) improved their general knowledge on childrearing. In particular, they increased their body of knowledge significantly ($p < 0.05$) in the areas of the physical, emotional, social and cognitive development of their children. The only domain that did not show a significant difference between the pre- and post-tests was in language development. It would seem that in this domain Afghans pay more attention to the development of their children's language, therefore the new information received through the M-Learning curriculum did not have a significant impact. It may also be that in this pilot project the number of participants was not sufficient to determine trivial changes. We are planning a larger study in the near future, which may or may not change the results of the study in the language domain.

The evaluations conducted in this study show that participants and instructors are extremely satisfied with the technology, as well as with the levels of knowledge being disseminated to participants. In particular, the curriculum developed by our specialists has been very well received by parents in Afghanistan.

Feedback from our field instructors indicated that at the beginning of the project many families expressed concern that the information should only be distributed to the female members of the family. In Afghanistan, this finding did not surprise us, since after all Afghanistan is a very traditional country with very specific religious beliefs, wherein the male is in charge of the upbringing of children. We therefore changed our strategy to provide the information to both parents. With this change in strategy we did not encounter any restrictions on conducting our study and collecting data. The other important observation made by our field instructors was that when male members of the family listened to the curriculum, they requested the presence of their spouses, and other members of the family to listen to the material. Moreover, it was observed that in some cases they invited their neighbors, friends and relatives who had young children to also participate. Many families invited others and placed the telephone in the middle of the room before turning on the M-Learning lessons, transforming an individual learning session into a group learning session. They also indicated that sometimes this event would turn into a voluntary social event, wherein participants discussed the content of the curriculum over a cup of tea long after the lessons were completed.

In summary, analyzing the results of this pilot project clearly demonstrated that LIVES is a suitable innovative technology for the development and delivery of curriculum based knowledge, capable of crossing literacy

barriers and therefore particularly useful for those individuals unable to read or write. In this study we also aimed to design a special curriculum for multi-dimensional child development aged 0 - 7 using modern developmental theories, carried out by a voice activated system and to be understood by people with no formal education. Success on the accomplishment of this objective was evident when we completed the third objective of the study on the effectiveness of this curriculum. Results of this study also demonstrated that the developed curriculum significantly improved the knowledge of the participants on modern theories of childrearing for Afghan parents regardless of their level of education. Furthermore, this study demonstrated that with the use of appropriate technology and culturally sound approach it is possible to empower females in a male dominated society, placing the mother in the center of the family and making them fully in charge of the upbringing of their children. Moreover it could be argued that curriculum content on subjects such as health, business, agriculture, law, ethics, governance and others could be developed and delivered through LIVES, particularly for those who are challenged by illiteracy. Societies in developing countries may greatly benefit from this technology and curricula. In particular, countries that are disadvantaged by illiteracy and gender issues in the structure of the family, as well as in society at large, will benefit the most.

6. Future Directions and Recommendations

We plan to conduct a larger study across Afghanistan, as well as perform follow up studies on knowledge retention each year for those individuals who have already participated. Moreover, it is our intention to conduct a separate study to assess the children of those families who have participated, evaluating the behavior of these children and their success in school as an indicator of the efficacy of this knowledge on the family, social environment and Afghan society at large. Our long-term goal is to make this validated tool available to all families and parents in Afghanistan, as well as internationally where the need is evident, particularly in developing countries.

We do not aim to disseminate this knowledge worldwide on our own; therefore, we are seeking partners to support this idea in other developing countries. We have already signed agreements with two partners (in the Middle East and Vietnam) to translate the curriculum, give them the technology free of charge, and support the dissemination of knowledge and technology in those countries. This technology can also be used in partnership with other organizations working in sectors such as business, health, governance, law and others. We would be pleased to partner with such organizations and help them develop and implement their knowledge in any sector of livelihood through LIVES.

References

Arnold, C. (2004). Positioning ECCD for the 21st Century. Coordinators' Notebook.

Ki-Moon, B. (2007) Children and Millennium Development Goals: Progress toward A World Fit for Children. United Nations.

Qayumi, K., Pachev, G., Qayumi, S. et al. (2014) Needs Assessment: Knowledge on Parenting and Improving the Learning Space through Technological Advances in Afghanistan. *Creative Education, 5*.

UNESCO (2007) Early Childhood Care and Education in Emergency Situations (Paper Commissioned for the EFA Global Monitoring Report, 2007).

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Scientific Research

A Proposal of Potentially Meaningful Material for Teaching of Vector Mechanics

Bruno Nunes Myrrha Ribeiro[1], Carlos Vitor de Alencar Carvalho[1,2]

[1]Geraldo di Biase University Center, Barra do Piraí, Brazil
[2]State University Center of Western Rio de Janeiro, Severino Sombra University, Vassouras, Brazil
Email: myrrhaugb@gmail.com, brunomyrrha@ugb.edu.br, carloscarvalho@uezo.rj.gov.br, cvitorc@gmail.com

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Abstract

This paper presents didactic solutions to the Vector Mechanics subject, which aims to teach the calculation and the representation of the acting forces on a given particle in space. It is about developed and applied activities in GeoGebra software, called potentially meaningful materials. The whole proposal was based on MLT—Meaningful Learning Theory, proposed by David Ausubel, in order to contribute to a more efficient learning in general disciplines of engineering courses.

Keywords

Vector Mechanics, GeoGebra, Meaningful Learning, Potentially Meaningful Teaching Material, Potentially Meaningful Teaching Unit

1. Introduction

One of the difficulties presented in teaching mechanical vector is the visualization and interactivity issue. The use of static resources, such as lecture classes and the traditional media used, most often, does not allow a satisfactory teaching and learning of the content. An effective learning of the content is important for the engineers during the training, but the methodological alternatives that can provide the assimilation of the content in the easiest way, in most of the times are not available in the courses for teachers.

GeoGeabra software, which is a dynamic geometric environment that allows the interactive exploration of algebraic and geometric concepts, was used in the development and proposal of didactic solutions for disciplines

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in General Mechanical Engineering courses, developing activities in the form of computation tools, so-called potentially meaningful material. It was observed as necessary conditions in MLT—Meaningful Learning Theory, theoretical basis that contextualizes that new knowledge starts from the interaction with the previous cognitive structure of the individual knowledge.

Nowadays, computerization was not contested anymore, because the first contact with the computer technologies came from childhood; however, it was observed that lately technological insertions came from previous experiences at school.

2. The Augmented Reality (AR)

The applied IT to education approaches relative concepts about learning, philosophy knowledge, domination of technological education and pedagogical practice. According to Almeida (2000), his classification is conditioned to a couple of approaches: instructionist and constructionist. Almeida (2000) thus observes that knowledge transmissions in view of the applied IT to education are characterized in two areas: Computer Instruction Assistance and Computer Intelligent Instruction Assistance.

According to Valente (1999), the development of the cycle "description-execution-reflection-debug-description" in educational software is a core value in the assimilation of new information by the student. The description consists in describing the problem; the execution is the step that determines a true and instantaneous feedback; the reflection provides a note about what was done and debug is the procedure when the individual searches for the new. From this, the cycle "description-execution-reflection-debug-description" is held again (**Figure 1**).

3. Vector Mechanics

Mechanics is an applied science that analyses physical phenomena that characterizes the action of forces acting on bodies; it is subdivided into the mechanics of rigid body, the deformable body and fluids, based on the structured analysis of the following concepts of magnitudes: space, time, mass and strength (Beer, Johnston, & Eisenberg, 2006).

It is crucial to highlight that the development of the this paper applies concepts from resultant forces on bodies at rest, considered perfectly rigid and represented by vectors in the plan and in space, under the complexity of the Static topics, a subarea of Mechanics of rigid bodies. Thus, it was selected as the aim of this paper, the rectangular components of a force in space (**Figure 2**).

4. Mainingful Learning Theory

The meaningful learning theory (MLT), proposed by David Joseph Ausubel is presented in the form of conceptual map as shown in **Figure 3**, defining that, learning new knowledge comes from the interaction with the previous knowledge in the cognitive structure of the learner. This concept is called "subsume" (**Figure 3**).

When it comes to teaching and learning, it is important to note as necessary conditions to a meaningful learning, the potentially meaningful material and the predisposition to learn (Moreira & Mansini, 2011). The Potentially significant materials developed will be presented in the next section.

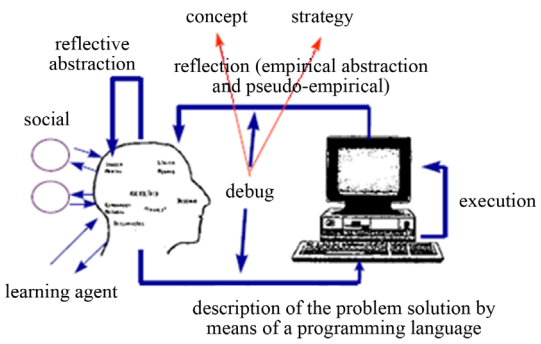

Figure 1. Cycle "description-execution-reflection-debug-description". Extracted from reference: Valente (1999).

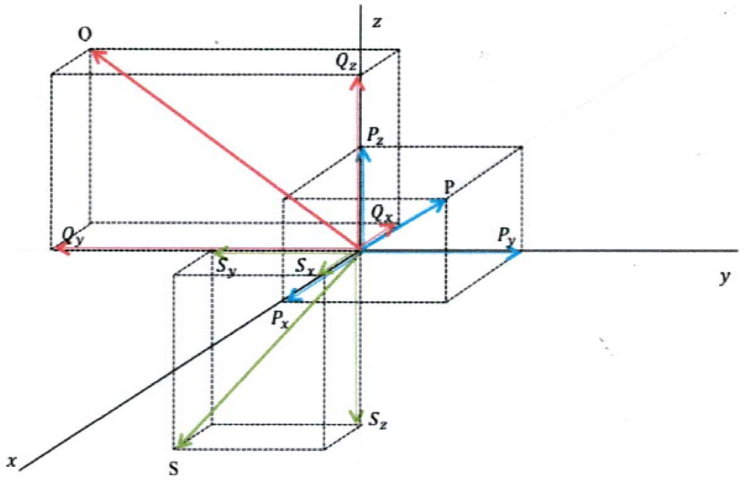

Figure 2. Rectangular components of various forms in space.

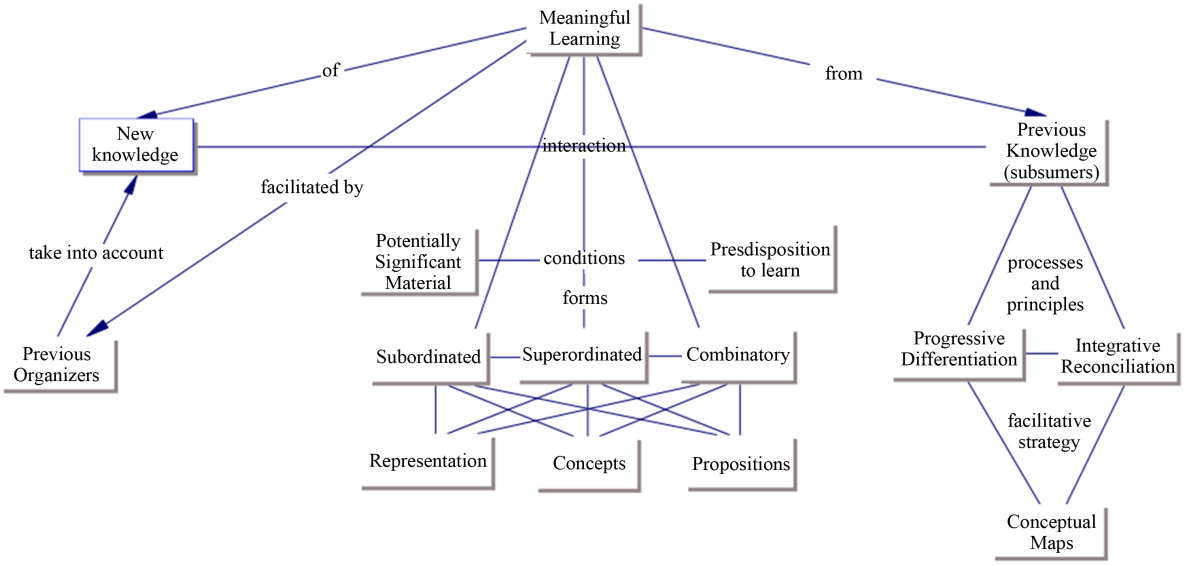

Figure 3. Meaningful learning theory. Extracted from reference: Moreira (2009).

5. The Potentially Meaningful Material in Vectorial Mechanics Teaching

This entire work was developed in EERL—Engineering Education Research Laboratory (http://labpee.wordpress.com/) (LPEE (Portuguese): Laboratório de Pesquisa em Educação em Engenharia), a laboratory for research and development of didactic solutions to engineering teaching.

Based on learning theory, potentially meaningful material was developed in GeoGebra software, a dynamic geometric environment that allows the exploration of geometrical and algebraic concepts in interactive forms. All implementations of interactive activities were developed in a constructionist strand, with CAI characteristics and exercises of classificatory approach, practical exercises and simulation, allowing the application cycle description-execution-reflection-debug-description, relating to educational tools. From a canonic basis, a space is simulated in a plan, developing the decomposition of three-dimensional vector forces (**Figure 4**).

Sequentially, it is presented the material that applies the calculation of the acting forces that results with a variable height tower, allowing the alteration of the tower image, which contextualizes the application of the study (**Figure 5** and **Figure 6**).

The potentially meaningful material is available on the website LPEE—Research Laboratory of Engineering Education for the national and international community.

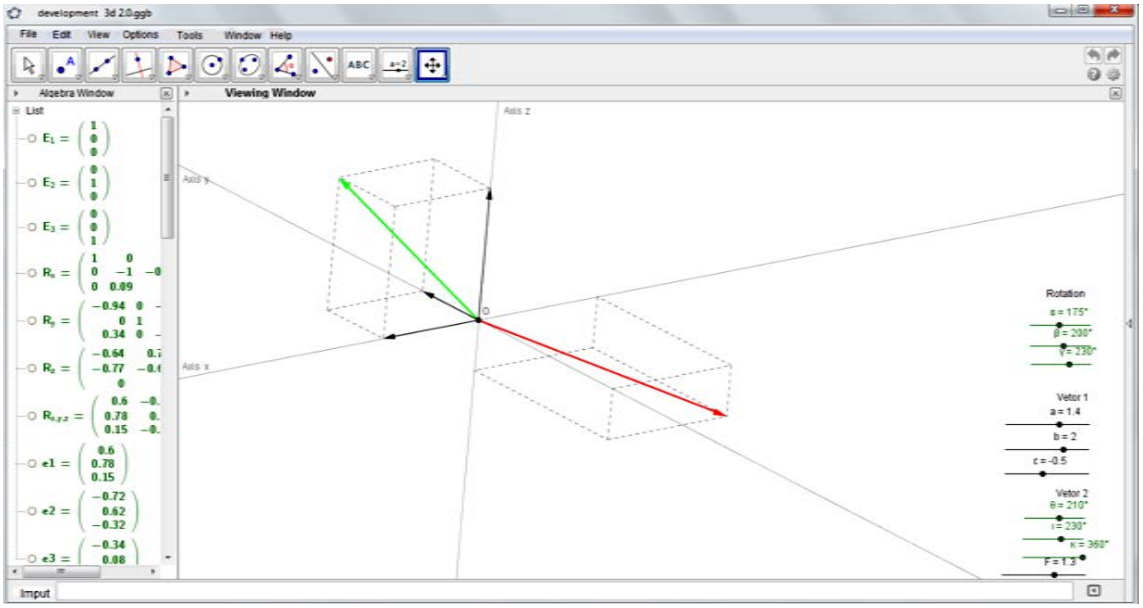

Figure 4. Decomposition of force in space. Extracted from reference: Ribeiro (2014).

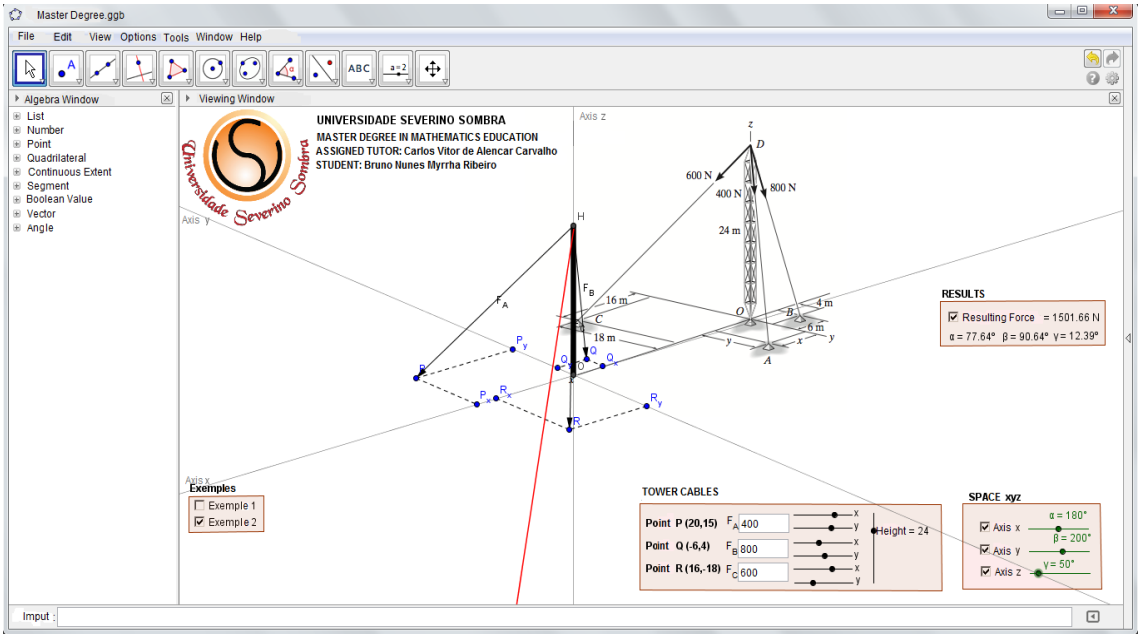

Figure 5. Applied activities. Extracted from reference: Ribeiro (2014).

6. Discussion

The potentially significant material is proposed with the aim to teach the calculation and representation of the forces acting on the space of vector problems in mechanics. To observe the use of the developed activity and their use in the classroom, some students of Civil Engineering, Production Engineering and Mechanical Engineering, Geraldo di Biase University Center were chosen.

The analysis was made from the characteristic clarity of information and the quality of materials which was potentially significant, particularly with respect to visualization and interactivity. For this a situation that involves a practical problem in the representation and calculation of resultant force acting on a given tower (**Figure 7**) is presented.

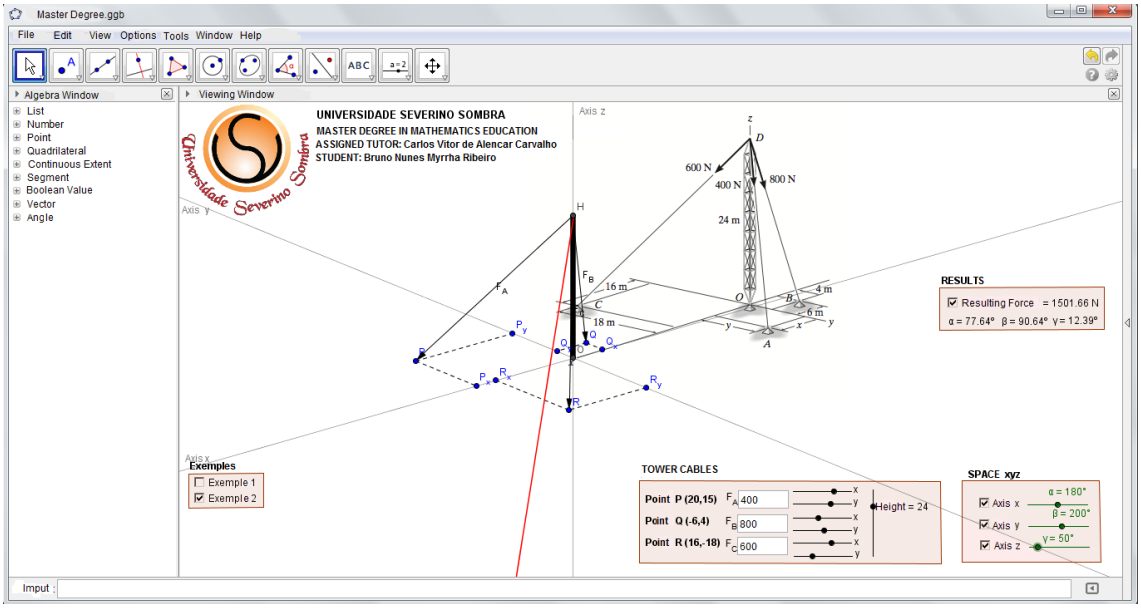

Figure 6. Applied activities. Extracted from reference: Ribeiro (2014).

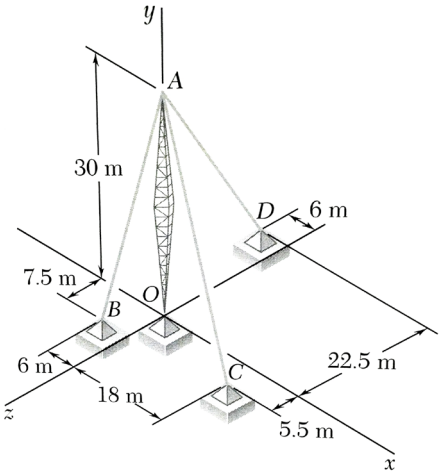

Figure 7. Structure that was used as an example in the classroom. Extracted from reference: (Beer, Johnston, & Eisenberg, 2006).

Initially a presentation on the operation and use of GeoGebra was necessary. Subsequently, it is required to put forward the developed activity, explain its operation and which parameters should be modified, that is to say, the support points of the cable coordinates that sustain the tower.

Thus, the students made the modifications of the cable coordinates and tried to reproduce the image shown in **Figure 7** and therefore to observe the value and direction of the resulting force. **Figures 8-10** demonstrate moments of this investigation.

The return of the students who participated in the activity was very interesting and rewarding. It showed that we were in the right direction and that the use of technology to assist in the teaching-learning process, apart from being feasible, was an essential tool these days. Some points were highlighted: 1) the use of GeoGebra is really a facilitator. Students indicated that the software was easy to use and very simple. This is very important to motivate the participation of students who use the software; 2) The activity developed with GeoGebra software proposed in this paper clearly demonstrates dependencies between vectors, resulting in the study of vector mechanics; 3) The students suggested that new developments should be researched and investigated in engineering, such as the development of activities for teaching topics of the strength of material and of fluid mechanics.

Figure 8. Students using the activity developed in GeoGebra software.

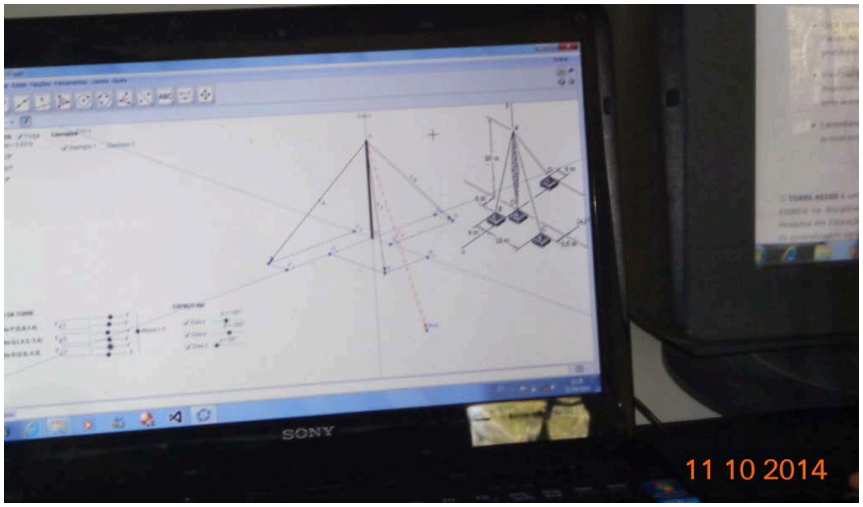

Figure 9. Students using the activity developed in GeoGebra software.

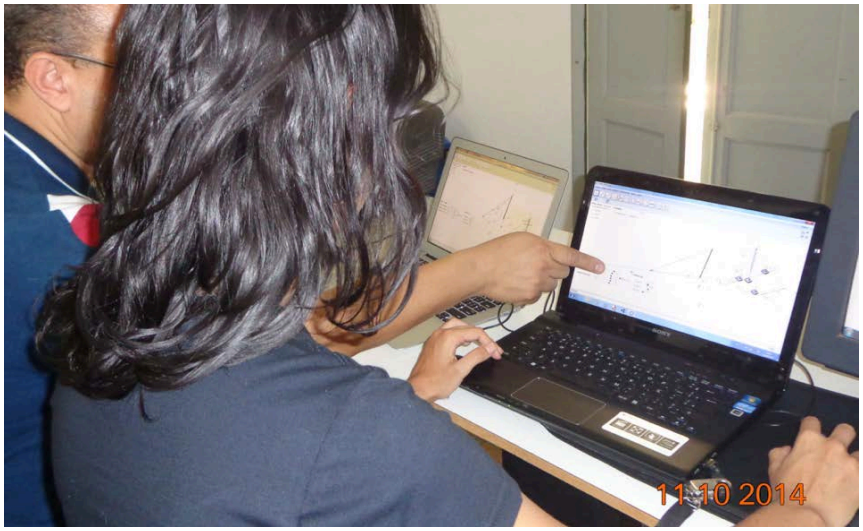

Figure 10. Students using the activity developed in GeoGebra software.

Acknowledgements

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References

Almeida, M. E. (2000) *Prolnfo: Informática e Formação de Professores*. Vol.1, Secretaria de Educação a Distância. Brasília: Ministério da Educação, Seed. 192. (Série de Estudos. Educação a Distância. ISSN 1516-2079; v.13)

Beer, F. P., Johnston, R. E., & Eisenberg, E. R. (2006) *Mecânica Vetorial para Engenheiros*. Vol. Estática, 7ª edição, São Paulo: MacGraw-Hill, 619.

Valente, J. A. (1999) *O computador na sociedade do conhecimento*. Campinas: UNICAMP/NIED.

Moreira, M. A., & Masini, E. F. S. (2011) *Aprendizagem Significativa: A teoria de David Ausubel*. 3º Edição, São Paulo: Editora Centauro, 111.

Moreira, M. A. (2009) *Subsídios Teóricos para o Professor Pesquisador em Ensino de Ciências—Comportamentalismo, Construtivismo e Humanismo*. 1o Edição. Porto Alegre, Brazil.

Ribeiro, B. N. M. (2014) *Desenvolvimento e proposta de uma unidade de ensino potencialmente significativa para tópicos de mecânica vetorial*. Dissertação (Mestrado Profissional em Educação Matemática). Vassouras: Universidade Severino Sombra.

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Scientific Research

The "In-Between" Intercultural Knowledge Production: A Case Study from the Teacher Training Kaingang Ethnicity in Southern Brazil

Miguel Ângelo Silva da Costa[1*], Luci dos Santos Bernardi[1], Leonel Piovezana[1], Luzane Mores Bernardi[2]

[1]Department of Education, Universidade Comunitária da Região de Chapecó, Chapecó, Brazil
[2]Department of Mathematics, Universidade Comunitária da Região de Chapecó, Chapecó, Brazil
Email: [*]miguel.costa@unochapeco.edu.br

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Abstract

As a reflection of an ongoing research project, whose wider scope of analysis focuses in the expectations and produced stares about indigenous education by students of Kaingang ethnicity enrolled in Graduation Bachelor Courses in Indigenous Intercultural Pedagogy, Mathematics and Sciences of Nature, all three offered by the Universidade Comunitária da Região de Chapecó (Unochapecó), this study problematizes to what extend the intercultural knowledge acquired over the training process of Kaingang indigenous teachers may be converted into reflections focused on their conceptions of education, (re) signification of their identity and autonomy within a context of an intense multiculturalism emergence as well as cultural hybridism, which characterize contemporaneity. The results indicate that, for those students, the intercultural knowledge may be triggering as an instrument of changes, inside and outside their communities; it strengthens and nourishes the debate around the role of formal education, the school and the indigenous teacher as a mediator between worldviews and cultures, in constant confluence.

Keywords

Intercultural Education, Indigenous Teacher, Kaingang Ethnicity, Sothern Brazil

[*]Corresponding author.

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1. Introduction

> *The borderline work of culture demands an encounter with "newness" that is not part of the continuum of past and present. It creates a sense of the new as an insurgent act of cultural translation. Such art does not merely recall the past as social cause or aesthetic precedent; it renews the past, refiguring it as a contingent "in-between" space that innovates and interrupts the performance of the present. The "past-present" becomes part of the necessity, not the nostalgia, of living* Bhabha (2003: p. 7).

Currently, a scenario in which our existence is marked by tenebrous feelings of living on the borders, or rather, in transitional social settings where "space and time are crossing and creating complex figures of difference and identity, past and present, interior and exterior, inclusion and exclusion" (Bhabha, 2003: p. 19), the mobilizing experiences with respect to the indigenous people and cultures have become part of a global public agenda embedded into the field of cultural hybridity. We can even say that in the sense of "nostalgia of difference" and the search for the construction of the supposed "authenticity" against the corruption of modern development, the indigenous cultures have not only be translated, but, also differentially absorbed the distinct and multiple cultural meanings assigned to processes of economic modernization and local modernisms (Gadea, 2007: p. 160).

The longstanding indigenous social issue in countries with Amerindian minorities, like Brasil, is collated by researchers from diverse academics areas. From different research fields and theoretical focuses, the academic production is wide and diverse. If returning to decade 1930, for example, certainly the debate would focus on opportunities for the physical survival of the indigenous groups and their gradual and fair integration into national society. The so-called "Brazilianization" of the indigenous groups, or rather, the integration policies emanating from the Indian state were linked to a larger project of nation-building as well as modernization of the country. These were also the goals advocated by the Indian Protection Service (SPI), an agency which was founded in 1910 and for a long time directed by Marechal Cândido Rondon, a positivist military who had been for years at the front of the Commissions of Telegraph Builders in Mato Grosso, a state located in the Center-West of Brazil. But not only that, the SPI, while under the Ministry of Agriculture, Industry and Commerce, in addition to its "civilizing" mission agency, also aimed the administration of the demarcation of the indigenous areas and indigenous man into the national economy, from its insertion as hand-work in the territories of the South and Midwest of the country, especially within the states of São Paulo, Paraná and Santa Catarina, which configured the advance of the called "agricultural frontier". This integration project developed by indigenous SPI, whose bases were founded upon the tenets of modernity and construction of the modern nation, continued with the agency that replaced it in 1967, the National Indian Foundation (FUNAI) which was still in operation, despite the continuing crisis that affected social efficiency and political legitimacy.

However, since the 1930s the critical event related to the great "civilization" project for the indigenous integration into national society has contributed to the emergence of news discourses, demands and political-cultural initiatives in Brazil. Based on the right of diversity advocated by the Federal Constitution of Brazil in 1988, a considerable distance separates the model of rural schools, predominantly in Brazil until the mid-twentieth century, and the current specific schools and community education, installed in indigenous territories. This community school institution, which was intercultural, bilingual/multi-lingual and specific/differentiated, was qualified for the indigenous public as a New School, which also had to be understood as part of claims advocating new ways to establish relationships between different segments of society. Nevertheless, it should also be understood as a reflection of the so-called crisis of the disciplinary norm and homogenization of modernity. Given that, the normative discipline, before constituted by a set of institutional regulations and empirical processes dedicated to setting up a homogenized individual, demonstrated its weak-nesses, in example of the modernity and formal models of education. We can even consider that, in the face of a scenario marked by economic globalization and cultural globalization (Hall, 1997, 1999 and 2003; Bauman, 1998, 1999, 2001 and 2003), the critical reflection about indigenous education also "evidences a problematic socio-cultural and political issue regarding the relationship between the senses of current cultural challenges and normativism enclosed in teaching methods and educational programs" (Gadea, 2007: p. 177).

The intention of this article is presenting the partial results of a research project, which is focused on the analysis of expectations of the Kaingang indigenous students enrolled into Intercultural Graduation Degree courses offered by the Universidade Comunitária da Região de Chapecó (Unochapecó) about Indigenous School Education. Therefore, it is assumed that their expectations emerge in an in-between context, in which the repre-

sentation of the difference cannot be read hastily as a reflection of cultural or ethnic predetermined features, but as part of a new emerging logic: the logic of mutable identity, or even better, the logic of constant redefinition of situations and experiences of political and cultural identification (Canclini, 1997). In particular, it discusses the extent to which intercultural knowledge is acquired within the formation of Kaingang indigenous teacher that can be converted into reflections aimed at their conceptions of education, identity (re)signification and autonomy in a context of intense emergence of multiculturalism and cultural hybridity, characterizing the contemporary.

2. The Indigenus Kaingang Students of Unochapeco and Their Voices

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Belonging to Jê linguistic group, of Tronco Macro Jê, the Kaingang, ethnic group which come from the indigenous students enrolled in the course in Intercultural Graduation offered by Universidade Comunitária da Região de Chapecó (Unochapecó), totaling a population of approximately 37.400 individuals (2010 Census-IBGE-Brazil). Although, contemporaneously, their villages are located in the regional space of the four states of southern Brasil (Rio Grande do Sul, Santa Catarina, Paraná e São Paulo), its historical and sociocultural process in the region and in adjacent areas, such as in Província de Misiones (Argentina), dates back two thousand years ago.

In Santa Catarina, estimated at 9.000 individuals, most of the Kaingang population lies established in the western region of the state, more specifically covered by the Indigenous Land Pinhal (city of Seara), ToldoImbu (city of Abelardo Luz), Indigenous Land Xapecó (cities of Ipuaçu and Entre Rios), Indigenous Land Chimbangue and Village Kondá (city of Chapecó) (Piovezana, 2007).

Established on indigenous lands Xapecó, Chimbangue and Village Kondá, indigenous academics of Unochapecó experience the dramatic effects of current social crises triggered by stories of cultural difference. If the recent past, deeply rooted to the violent actions of usurpation of their fields, or the abusive use of natural resources on their lands, the Kaingang established in Western Santa Catarina experienced contingencies resulting from the advance of the expanding frontiers of national society (Piovezana, 2007) currently, the new generations Kaingang faced with a scenario of intense social relations and cultural exchanges, the simple dualism between Kaingang and “his other” gives relief from the breakup of their ancestral culture.

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Contemporaneously, traditional Kaingang medicine granted space to modern medicine and allopathic medical treatment. New technologies—computers, internet, cell phones and televisions—as well as the infinity of Pentecostal and evangelist churches in Kaingang lands, are stark indicators of interchangeable identities embedded in between—a place, or if we are want, a space of moving boundaries (Skovsmose, Alro & Valero, 2009).

This means that tradition and modernity are evident as interchangeable milestones in the Kaingang’s life, therefore, are also significant and present experiences in the social aspects of the group of academics who, in 2009, started the Graduation Degree in Intercultural Indigenous, developed in Indigenous Land Xapecó with duration of ten (10) semesters and aiming to meet the indigenous communities of the region (Unochapecó, 2012).

In context, hence, of intense emergence of cultural hybridity and multiculturalism, how what characterizes the Kaingang contemporary, we can ask in what measure the intercultural knowledge acquired in the space of formation of this indigenous ethnicity can be converted into reflections aimed at their conceptions of education, identity (re)signification and autonomy?

To answer this question and better systematize our arguments, we present here the speeches obtained from 24 indigenous academics (14 of Graduation Degree in Intercultural Indigenous Pedagogy and 10 of the Graduation Degree in Intercultural Indigenous Mathematics and Natural Sciences), methodologically organized from the application of questionnaires and interviews. With the aim of obtaining information about their expectations and looks about indigenous education, we organized their testimony based on three axes of emerging reflection from their own lines, thus organized (see **Appendix**): 1) the importance attributed to intercultural knowledge on the teacher training process (in **Table 1**) ; 2) the meanings conferred to intercultural education within the indigenous school (in **Table 2**); and 3) the mobilization of intercultural knowledge and their empowerment in emancipatory struggles (in **Table 3**). The words of the academics will be described in frames, where we chose to not identify their names.

3. Results and Discussion

Although preliminary, the analytical exercise proposed in this article allows us to infer that the proposals in indigenous intercultural undergraduate courses offered by Unochapecó, contribute to build a list of reflections not only of indigenous school education, as also of the broader struggles spearheaded by the Kaingang. The conceptions that underlie the statements of scholars are strongly influenced by the multiple choices present and built in in the set of cultural confluences with the world that surrounds them. When issuing their statements on the importance attached to intercultural knowledge in the teacher training process, leaves the impression that the quest for knowledge reflects part of a repertoire of strategies not necessarily devoted to simply better understand the world around them, but rather of it and interact with it consciously. The desire to "be a good professional able to educate and provide a quality education based on reality and popular knowledge of indigenous child, and why not also the non-indigenous" (Academic 01), denotes a future project built on this experience and his dialog with the liminality of the cultures that surround it. Is also in dialogue with this continuous flow of cultural interaction, which speaks of the Academic 03 is produced. When highlighting in his speech that the knowledge produced throughout the course translates into an "instrument of argument", the young native scholar suggests that, in addition to the endogenous environment of ancestral belonging to the group, intercultural perspective of teacher training underlies learnings that can also be triggered as legitimating strategies of Kaingang emancipation.

Regarding the meaning given to intercultural education within the indigenous school, scholars believe that the quality of their training, through indigenous intercultural degree course, can contribute to the construction of a less traumatic future for the new generations of Kaingang. The school, in this sense, is conceived as a space for knowledge building, valuing intercultural knowledge and reframing of roles. No wonder, in virtually all the stories/testimonials, indigenous intercultural education emerged conceived as "challenging" (Academics 24 and 03) as an instrument of "change" and social "fight" (Academics 12 and 18), in synthesis, also as an emancipatory perspective.

Table 1. Emergent axis of reflection 01.

1) The importance attached to intercultural knowledge during the teacher training process	
Academic Interviwed	Speak of the Academic
Academic 01[a]	"Every day, stage, I have managed to obtain new knowledge that will be useful for me to become a good professional who is able to educate and provide a good quality education based on reality and popular knowledge of the indigenous child, and why don't say about the non-indigenous as well, I need only to prepare myself and I am sure I will be a good teacher, and over all, concerned with the quality education."
Academic 03	"Through the course we construct a knowledge which is the instrument of argument in order to not to be fooled by the clever ones. Soon this knowledge will be socialized with our students."
Academic 05	"In these four years I have learned a lot, acquired new knowledge to improve my attitudes in everyday life and especially in my field of work."
Academic 10	"As a teacher, we have a very broad view. We learn to develop a good quality work in the field of education. Thus, by seeking for knowledge, we can transform our community and the surrounding society."

[a]Academic interviewed.

Table 2. Emergent axis of reflection 02.

2) The meanings assigned to the intercultural education in the framework of the indigenous school	
Academic Interviwed	Speak of the Academic
Academic 01	"The school we have today has been imposed to us indigenous. This is not the school that we had expected, it came ready, but suitable to changes and, we as indigenous academics and future teachers, are aware that it needs to have distinctive characteristics and traditional education for indigenous communities [...]. It is perceived as essential the creating a pedagogical propose based on their own indigenous learning processes as well as their way of seeing the world."
Academic 06	"A school that meets the reality of the community, that fits their needs and is differentiated. Differentiated with regard to autonomy as a right of the study of culture, customs, and who seeks the interaction of scientific knowledge and the knowledge of the culture."
Academic 12	"The group of academics of this course has the entirely vision of the rescue of the indigenous traditions, since we have learned to value our culture and fight for it."
Academic 24	"Indigenous education is challenging and as integral part of this process, makes us feel like multipliers and everything we plant today will sow tomorrow. We are indigenous people who want to be heard, respected, and get valued our culture."
Academic 18	"The necessary change is to have more qualified teachers in Indigenous schools. More support by the government on the infrastructure, materials and teaching quality for the qualifications of professionals, and when I say professional, I mean everyone, not just teachers."
Academic 04	"Respect for the specific calendar on indigenous schools, more trained professionals, responsibles and with school engagement. An expansion of the number of classes of Kaingang teaching language."
Academic 02	"Look, I always says that I grew up related to knowledge and matured my ideas and goals, and today I can say I'm on the right track, I want to be a teacher to help in the fight to rescue the culture of our people."
Academic 07	"The degree course came to contribute to my development as a teacher and also to teach us how to insert content related to our culture in the subjects worked in school, while teaching the universal learning."
Academic 03	"It has helped a lot, since it challenges us to think about teaching from the culture and the quest for scientific knowledge. Every teacher must always be improving, seeking new information. The Indian degree is challenging, it makes us feel that we can go far beyond what we want."

Table 3. Emergent axis of reflection 03.

3) The mobilization of intercultural knowledge and empowerment in emancipatory conflicts	
Academic Interviwed	Speak of the Academic
Academic 02	"We know it is not easy rescuing all we had, but the little that we manage behalf of our people would be satisfied."
Academic 19	"Seeking knowledge to transform our community and the surrounding society."
Academic 06	"The degree supports us in order to work in a different way with our indigenous children. Through this course, we can revitalize our customs and strengthen our cultural identity as a whole."
Academic 01	"We are preparing our children to be someone in life hereafter: an indigenous chief, a councilor, a mayor, a governor of the state since we the Kaingang people, already have someone to take over as a councilor."
Academic 05	"Certainly I believe that all indigenous communities can have a decent life and their rights deserve to be respected by the rulers of this country."
Academic 08	"We need to dream. That future generations are able to come to fight and seek better lives not only for the minority, but for the majority of indigenous peoples."
Academic 09	"We learned to impose ourselves the indigenous society as non-indigenous society by presenting ourselves as critical citizens."

As the mobilization of intercultural knowledge and its empowerment in emancipatory struggles, we must consider that in the face of a complex process of "recitations of historical and cultural narratives that reinvent temporalities and scenarios, in which indigenous both wins and loses much of its power in the founding myths of cultural dynamics" (Gadea, 2007: p. 157), indigenous teacher assumed a vital social role, since the reflection about education and educational practices is now carried out from other logic: the logic of dialogue between the traditional knowledge of their communities and knowledge historically legitimized by the formal school culture. It is therefore in this sense that the mediating role of these scholars, while teachers working in their ethnic territories, gains significance.

According to Mindlin (2003), the indigenous people after having their schools recognized, had to combine two different universes, theirs and the national society, that is, other ways of thinking and living. It seems to us that it is precise in dialogue with this need and conscious of their role as mediators in the community in which it operates. The Academic 06 highlights the important support that intercultural knowledge provides in the educational process of the indigenous child. According to him, through the course of intercultural degree, it is possible to "revitalize our customs and strengthen our cultural identity". Studying educational ways which may contribute to building the community that they crave for, and knowing their universe and also the cultural universe that surrounds them are the wishes that support the future projects for the Kaingang academic. When referencing the position of the border you live in an indigenous community, Skovsmose, Alro & Valero (2009) emphasize that the motivation for student learning is linked to two issues: the background and the foreground of each individual. The background is related to cultural and socio-political roots of the individual or group, on the other hand, the foreground relates to the understanding of the perspectives of learning and living the sociopolitical context that apparently offers you; in other words, how these perspectives/future opportunities are observed by individual. Within this guideline reasoning stands in Bernardi (2011: p. 205):

> [...] to teachers who work in educational processes proposed to the student. It's necessary to consider that all the action developed by them, as a trainer for or their continuing education, is only mobilized and produces meaning by the look that these teachers have thrown to the future.

From the speeches of our interlocutors, it was observed that the desired qualification in intercultural teaching by scholars/teachers, has support in "this look into the future" which encourages them constantly. According to the Academic 01, "We are preparing our children to be someone in life hereafter: a chief, a councilor, a mayor, a state governor, because we, Kaingang people, already have someone to take over as a councilor."

Each individual has his future projects. However, often these projects end up being interrupted or obstructed by lack of access to certain resources. The desire to change their reality motivates this group of indigenous students to fight for a better education, a decent life which dialogues with the tradition of ancient culture and the postmodern condition. Pursuing professional qualification was the strategy adopted by this group of Kaingang students. Here the movement between their background and their foreground can be noticed, as well as how their choices have contributed to assigning a meaning which is also political considering this level of training in higher education. The need to keep fighting for a fairer situation is constantly reaffirmed on their narratives.

In general, by focusing on expectations and looks about indigenous education produced by scholars of ethnicity Kaingang, enrolled in the Graduation Degree in Intercultural Indigenous in Pedagogy and Graduation Degree in Intercultural Indigenous in Mathematics and Natural Sciences, offered by the Unochapecó, we could see that what these scholars have inherited either as culture, tradition, or sense of identity as itself didn't broke up in the air, only moved, opened to question. That is, as part of a process marked by choices and expectations of the future, these scholars experience the constant need to mobilize efforts and build viable strategies to enroll in a context that transcends the boundaries of their community. However, at the same time their individual desires emerge from their speeches, from these ideas, also emerge from the desires of the group and the community to which they belong. In this sense, it is important to notice that the intercultural knowledge acquired by the indigenous students within a higher education institution, born and formed from socializing mechanisms of modernity on formal education, reflects a significant achievement in an environment that is inaccessible for them during a long time. However, what is clear to us is that for these academics, intercultural knowledge can be operated as an instrument of change, within and outside the Indigenous Area. The intercultural knowledge expands the debate about the role of formal education, indigenous school and teacher, in a space of constant cultural confluence. It is here that the indigenous "post-modernity" seems to reflect itself!

References

Bauman, Z. (1998). *O mal-estar das pós-modernidade*. Rio de Janeiro: Jorge Zahar.

Bauman, Z. (2001). *Modernidade Liquida*. Rio de Janeiro: Jorge Zahar.

Bauman, Z. (2003). *Comunidade: A busca por segurança no mundo atual*. Rio de Janeiro: Jorge Zahar.

Bernardi, L. T. M. S. (2011). *Formação continuada em matemática do professor indígena Kaingang: Enfrentamentos na busca de um projeto educativo.* Ph.D. Thesis, Universidade Federal de Santa Catarina, Florianópolis. http://ppgect.ufsc.br/teses-e-dissertacoes.

Bhabha, H. K. (2003). *O local da cultura*. Belo Horizonte: Editora da UFMG.

Canclini, N. G. (1997*). Culturas híbridas. Estratégias para entrar e sair da modernidade*. São Paulo: EDUSP.

Gadea, C. A. (2007). *Paisagens da pós-modernidade: Cultura, política e sociabilidade na América Latina*. Itajaí: Universidade do Vale do Itajaí.

Hall, S. (1997). *A centralidade da cultura: Notas sobre as revoluções de nosso tempo*. Educação e Realidade. Porto Alegre, Vol. 22, 15-46.

Hall, S. (1999). *A identidade cultural na pós-modernidade* (3ª ed.). Rio de Janeiro: DP & A.

Hall, S. (2003). *Da diáspora: Identidades e mediações culturais.* Belo Horizonte: UFMG.

IBGE (2012). *Os indígenas no Censo Demográfico 2010: Primeiras considerações com base no quesito cor ou raça*. Diretoria de Estatística: Rio de Janeiro. http://www.ibge.gov.br/indigenas/indigena_censo2010.pdf

Mindlin, B. (2003). *Referências para a formação de professores indígenas: Um livro do MEC como bússola para a escolaridade*. Brasília: Em Aberto.

Piovezana, L. (2007). A educação no contexto indígena Kaingang. In A. Nacke, (Ed.), *Os Kaingang no oeste catarinense: Tradição e atualidade* (pp. 101-122). Chapecó: Argos.

Skovsmose, O., Alro, H., & Valero, P. (2009). *"Antes de dividir temos que somar": "Entre-Vistando" foregrounds de estudantes indígenas*. Bolema, Rio Claro: São Paulo. Ano 22, n. 34, 237-262.

Unochapecó (2012). *Alteração do projeto pedagógico do curso de licenciatura intercultural indígena para a criação do curso de licenciatura intercultural indígena em matemática e ciências da natureza*. Chapecó, SC.

Appendix: Questionnaires and Interviews

Questionnaires	Interviews
01. What would be the ideal school sought by your people for your children?	
02. What differentiates the indigenous schools of non-indigenous school?	Talk freely about: 1) Your and the Kaingang people trajectory ; 2) Why being a teacher; 3) The Intercultural Indigenous Graduation and its relationship with the school and its students; and 4) Your expectations about the process of professional formation.
03. What should change in your school?	
04. In your opinion, what is your role as an indigenous teacher?	
05. How far the course of Intercultural Indigenous Degree has been contributing in your formation?	
06. In your opinion, what were the main changes observed with this graduation course? a) In your professional career? b) In your perception of Indigenous Education?	
01. As a student of an Intercultural Indigenous Course, I feel:	

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Scientific Research

Solution Focused Brief Therapy Applied to Diverse Classroom Settings in a Four-Year University

Charity Perry

Department of Sociology, California State University, Los Angeles, USA
Email: cperry5@calstatela.edu

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Abstract

Solution Focused Brief Therapy was developed during the late 1970s and 1980s by Steve de Shazer and his colleagues. The purpose of this paper was to examine the application of Solution Focused Brief Therapy's parallels with the author's classroom experiences in a higher education setting that gave special considerations to the author's disciplines of sociology, critical thinking, and marriage and family therapy. More specifically, the unique experiences are brought to a classroom by students much in the same manner that individuals bring experiences to a therapist who practices Solution Focused Brief Therapy. The author concludes that the perception of what constitutes a problem can be expressed as a limitation, not just merely defined as a problem.

Keywords

Solution Focused Brief Therapy, Creative Education, Higher Education, Diversity, Perception

1. Brief Overview of Solution Focused Brief Therapy

Solution Focused Brief Therapy, hereafter referred to as SFBT, was influential based on past developments by efforts of the Mental Research Institute (MRI) in Palo Alto, California. The work at the MRI was influenced by Milton Erickson, a world-renowned psychiatrist, psychologist, and hypnotherapist. His work pointed toward principles of a solution-focused approach (Visser, 2013). Gregory Bateson was also influential in the initial efforts of solution focused therapy. Bateson's work focused on cybernetics and systems theory (Bateson, 1972). Bateson contributed to two fundamental principles of SFBT. First, he posits that individuals social system in which they function gives insight into the development of problems and solutions, and idea which we can attach to one's individual culture; and secondly, his greatest contribution was The Bateson Project (Cade, 2007) thereby,

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making the work of therapy pioneers such as John Weakland, Jay Haley, and others (Visser, 2013) more available to the public. The fundamental differs in SFBT and the MRI approach concerns emphases given by each concept of the "solution". The MRI approach seeks to interdict existing solutions that maintain the problem and promote "less of the same". SFBT seeks to develop new solutions after identifying exception to the problems discussed by one's client. The Brief Family Therapy Center was established by Steve de Shazer and Insoo Kim Berg in 1978 and focused on what worked in therapy, building theories around "accidents" in therapeutic conversations rather than analysis and diagnoses that came from typical client interactions in a therapy session. The focus then became on interventions for clients which established goal-oriented outcomes thereby creating a more optimistic outlook for their clients.

Considering the submerged competencies of clients, not only are problems defined and re-defined by the therapist, but it is important to consider what actually defines a "problem" as they are suggested by the SFBT model and the problems or attempts to solve the problems focused upon this theoretical model. SFBT is also described as a process oriented, non-linear approach in marriage and family therapy; SFBT is solution-building rather than problem-solving (Iveson, 2002). After eight successful years, a firm foundation was laid for global undertaking in therapy.

2. Exploring the Process of Process

Application of this framework by the researcher to existing knowledge of sociological theory, critical thinking, and family systems led to the question: Can process be seen as a problem?

Teaching students with diverse cultural backgrounds at a four-year institution, while weighing sociological aspects and family systems thinking toward problem solving is a strategic task. Determining whether or not a problem is a problem requires objective thought. At times, an initial response of student's peers is a dance of downplaying one's presented "problems". In fostering an atmosphere of critical thinking, allowing a student to verbalize thoughts on without interruption is often the greatest task. The introduction of students into understanding personal biases and prejudices via a discussion of their individuality and belief systems (which is largely based upon their authority figures at this point in their lives) is crucial to understanding the voice of their peers and reflecting on "where someone is coming from". Chris Iveson (2002) notes four key tasks of therapists during the first session: find out what the person is hoping to achieve from the meeting or working together; find out what the small, mundane and details of the person's life would be like if these hopes were realized; find out what the person has done in the past or is doing in the future that may contribute to the hopes being realized; and find out what could possibly be different if one makes the steps necessary in realizing the hopes presented to the therapist. The current researcher's thoughts parallel previous researchers who determined the idea of meeting a client "where they are at" is reminiscent of the scenario encountered on a daily basis with students in the classroom that is representative in many diverse backgrounds of students.

During the initial meeting phase of a client and therapist, precedence is given to clients by accepting the version of a clients' story that is presented by the client as real and valid (Smock et al., 2008). There is a parallel approach to SFBT while teaching such classes in sociology, and critical thinking; and certainly, other disciplines. We have to first understand that stereotypes exist, and are reinforced every day, yet an educator must take it on faith that a student is being honest about their individual circumstances. Meeting students "where they are at" usually involves a strategic dance which is discussed in more detail below.

Allowing such interactions and fostering a non-judgmental atmosphere is crucial from the first moments of the encounter between a student and educator to the last steps of giving a final exam. If a platform (interchanged with a stage, or voice) is given to a student knowing the educator only has a brief amount of "sessions" with them, it is imperative that we work through the "process" of problem solving based on respectfully taking into account the life experience of the student. Creating a safe classroom environment in which one can develop the ability to go beyond the stereotypes and see that not everyone "fits the mold perfectly" parallels a SFBT therapist, who must "think on their feet", especially given the limited number of sessions spent with the client.

Giving a nod to our individual cultures and backgrounds can mirror the safe environment created by a therapist, that as educators, we strive to attain. Establishing a safe environment for a student muck like the safe environment created by a therapist in which the therapist takes the clients truths as their reality and based on that reality, a sense of acceptance is created, therefore allowing an opportunity for the client to express that which is essential to introducing tools in which to explore problems based on "where the client is at". Behaviors based on

psychological, physical, and emotional characteristics of clients/students in the initial meeting posits that taking all of these perspectives into account help to gain a greater understanding of a client/student and how to create a platform in which solutions to a problem(s) can be determined.

Fostering growth in numerous individuals contextually requires dedication and goal setting. Educators often set goals for their classrooms before ever meeting their students. SFBT seems to parallel this dedication in that it has a specific purpose and short term goals. Student in parallel to SFBT must meet their short term goals (a successful experience, grade) in an educator's class to be successful in their long term goals (graduating from college). SFBT is designed as a platform which centers on the concerns of a client, much like those of a student, visions of what their futures will be (their hopes and dreams), the strengths and resources which are usually directed toward the future vision; and how to set goals so they can re-evaluated the progress being made toward the goals by having assignments to account for the solution, through re-evaluating the progress being made toward the ultimate short term goal (passing the class), the educator monitors the class by giving grades and feedback.

Second, as previously indicated, evaluating one's belief system becomes critical by introducing means in which to validate these systems, or help with a co-construction of altered or altogether new belief system. At times, college students find themselves questioning their belief systems yet not wanting to admit to anyone they are being challenged. Students may believe they are changing, which some therapists view as differentiation of self (which tends to occur during major life events, such as moving away to college, this particular age group being 20 - 25 years old).

Having a classroom atmosphere where topics are open to discussion (i.e., racial stereotypes, cultural stereotypes) fosters expression and realization that these events have been reinforced every day in some way or another for the student. Specific techniques used by the author of this paper such as in-class groups helps to target specific responses which result in a building block of solutions and fosters growth by questioning the perspectives of others (without judging) to gain a greater perspective on where another individual is coming from.

SFBT therapists invite their clients along in constructing a vision that draws on past successes, strengths and resources to make the visions a reality. As an educator/professor, the current researcher is hopeful this occurs in her classroom during the brief time she has with students so they ultimately can identify with their cultures, draw experience from life experiences they have had thus far, and create a platform in which their visions can become a reality. This technique tends to mirror the goal setting which in an important concept in SFBT. SFBT has been targeted by previous researchers (Newsome, 2004) who focused on group work with an at-risk junior high school student group and compared two separate groups of 26 students. The research showed that the students who were in the treatment group that modeled SFBT increased their grade point average when compared to the group who did not follow the model.

3. Process as a Problem

There are limitations in some processes. Limitations differ in meaning from therapist/educator. Some limitations are viewed as problems and some limitations are viewed as exceptions. Potential limitations that the author experiences with respect to the parallel in SFBT, is the concept of a limited number of sessions (15 - 18 as an average). The author's classroom time with students can be considered brief, compared to instruction received from institutions, which may utilize a semester system (approximately 28 sessions on average). Educators have a limited number of sessions in which to set goals, understanding the individual needs that are presented with the uniqueness of each class and the students in the classroom, and creating insight for the students to help discover the obstacles they already have to meet their goals. Due to the short duration of SFBT (i.e., 5 - 12 sessions usually) there are a number of scales (Iveson, 2002) used in identifying the specific framework that a therapist may pursue in this approach. The current author uses sociological concepts, family systems thinking and critical thinking. The parallel of SFBT applied to the experience of the author in that there are a set number of "sessions" in which a therapist/educator can explore solutions based on where a client/student is.

At times, this "process" can lead to other problems, exceptions, or limitation such as a defense by the student discussing their "problem" with their in class groups (usually 5 people) to determine whether the problem presented actually meets certain criteria is often subjective based upon an individual's influences of the culture and the society in which they are a part of.

4. Process as Therapy

The idea of process as therapy helps the author's students to grow from the first day they step into the classroom until the last day they have together. The process of content mastery along with the application of the content is crucial to the success of the student. SFBT parallels this by therapist's recognition of what tools the client has brought with them and how the tools will be used to meet client's needs. Through the idea of changing, yet recognizing the student's exceptions (i.e., belief systems, cultural differences) the process as therapy is beneficial. The classroom environment has guidelines that must be adhered to by the students (i.e., syllabus, discussions, classroom expectations, what they can expect to encounter, what they can count on from the educator). The author is optimistic the student will take away a hopeful expectation and tools which can be applied to other areas of their lives which are influenced by their various roles within society (i.e., work, relationships, family).

5. Conclusion

The purpose of this paper was to examine the applications of Solution Focused Brief Therapy's parallels with the author's classroom experiences in a higher education setting that gave special considerations to the authors' disciplines of sociology, critical thinking, and marriage and family therapy. In examining the parallels of SFBT and applying the knowledge of this particular approach in therapy, we can determine that seeing process as a problem, solution or therapy can be ambiguous, yet the model is applicable to a variety of contexts. In an examination of previous research that was compared in this paper, and application of personal classroom experience, the current author supports De Shazer (1994) that SFBT is an evolving model. It seems the freedom to explore other avenues in which the model can be applied is welcomed and encouraged. Through the exploration of SFBT as a model for classroom change, continued efforts in a classroom modeled by students and the educator with creative freedom an educator can apply in a classroom, the more platforms for change can be created. The question posed earlier in this paper is: Can process be seen as a problem? The author concludes that the perception of what constitutes a problem can be expressed as a limitation, not just merely defined as a problem.

References

Bateson, G. (1972). *Steps to an Ecology of Mind: Collected Essays in Anthropology, Psychiatry, Evolution, and Epistemology*. Chicago, IL: University of Chicago Press.

Berg, I. K. (1996). Solution-Building Conversations: Co-Constructing a Sense of Competence with Clients. *Families in Society, 77*, 376-391. http://dx.doi.org/10.1606/1044-3894.934

Cade, B. (2007). Springs, Streams, and Tributaries: A History of the Brief, Solution-Focused Approach. In T. Nelson & F. Thomas (Eds.), *Handbook of Solution-Focused Brief Therapy*.

De Shazer, S. (1994). *Words Were Originally Magic*. New York: Norton.

Berg, I. K., Lipchik, E., Nunnally, E., Molnar, A. Gingerich, W., Weiner-Davis, M. et al. (1986). Brief Therapy: Focused Solution Development. *Family Process, 25*, 207-221. http://dx.doi.org/10.1111/j.1545-5300.1986.00207.x

Iveson, C. (2002). Solution-Focused Brief Therapy. *Journal of Continuing Professional Development, 8*, 149-156.

Newsome, W. S. (2004). Solution-Focused Brief Therapy Groupwork with At-Risk Junior High School Students: Enhancing the Bottom Line. *Research on Social Work Practice, 14*, 336-343. http://dx.doi.org/10.1177/1049731503262134

Smock, S., Trepper, T., Wetchler, J., McCollum, E., Ray, R., & Pierce, K. (2008). Solution Focused Group Therapy for Level 1 Substance Abusers. *Journal of Marital and Family Therapy, 34*, 107-120. http://dx.doi.org/10.1111/j.1752-0606.2008.00056.x

Visser, C. F. (2013). The Origin of Solution-Focused Approach. *International Journal of Solution-Focused Practice, 1*, 10-17. http://dx.doi.org/10.14335/ijsfp.v1i1.10

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Scientific Research

Photovoice as a Pedagogical Tool: Examining the Parallel Learning Processes of College Students and Preschool Children through Service Learning

Kortney Hernandez[1*], Ani N. Shabazian[2], Cathy McGrath[2]

[1]CSULA, Center for Engagement, Service, and the Public Good, 5151 State University Dr., Los Angeles, CA, USA
[2]Loyola Marymount University, Los Angeles, CA, USA
Email: [*]kortney.hernandez139@calstatela.edu, Ani.Shabazian@lmu.edu, cmcgrath@lmu.edu

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Abstract

This study seeks to understand the effects of service learning on both young children and college students. Subsequently, quantitative and qualitative methods are employed to gain insight into how service learning coupled with a photovoice methodology can provide an empowering pedagogical practice for participants. Through the use of a Qualtrics survey and photovoice methods, this study examines the effects of service learning sampling 25 preschool age children and 39 undergraduate college students. Findings of this study provide an understanding and a platform for young children and college students to share their thoughts on service learning. Through reflection and dialogue from the participants, we begin to understand how alternative methods to education move beyond the realm of the classroom and collectively into the hands of the teacher, young children, and college students.

Keywords

Photovoice, Service Learning, Early Childhood, Volunteer Functions Inventory (VFI), Pedagogy

1. Introduction

The current study, using both college students and preschool children, isolates one research method/tool, photovoice methodology, and utilizes service learning as the phenomenon of study. According to Ethridge and Brans-

[*]Corresponding author.

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comb (2009), "few known studies have compared the active learning processes of children and adults within the same project" (p. 400). It is thought that the use of a service learning framework and photovoice methodology can provide insight into the pedagogical implications for college students and young children, which in turn may inform classroom practice. By removing educators from their traditional "expert" role and shifting the balance of expertise into the hands of college students and young children a unique opportunity develops in understanding how learning and reflection can be truly bidirectional and empowering. The authors of this article posit that through service learning and specifically the pedagogical tool of photovoice, college students and young children are able to understand, reflect on and participate in a shared learning experience. We will begin by defining the conventional use of photovoice and then delineate the adaptations that are made in the current study. Service learning will then be briefly discussed including the ways in which it was used in the current study. Further, before describing the current study, we will explain the Volunteer Functions Inventory (VFI), a measure used with the college students in our study.

1.1. Photovoice

Photovoice is a qualitative and participatory action research method, also referred to as photo novella, which was originally developed by Wang and Burris (1994). Photovoice, according to Wang and Burris (1994) is theoretically grounded in empowerment education, documentary photography, feminism, Freirean thought and critical consciousness. Wang and Burris (1994) first used photo novella to capture worldviews of rural Chinese women through photographs in order to inform social change. According to Strack, Lovelace, Jordan and Holmes (2010) through the use of photovoice, community members are engaged in a participatory process in which they are able to critically examine their community through photography, dialogue and action. Darbyshire, MacDougall and Schiller (2005) suggest that the use of photovoice with both adults and children allows for ideas that are different from those that typically come from interviews. Typically, this method is employed with populations that are the most marginalized or stigmatized (Wang & Burris, 1994; Strack et al., 2010; Darbyshire et al., 2005) within society to allow for critical dialogue and action to emerge from discussions of the photographs. As it has been employed conventionally, photovoice involves placing cameras in the hands of those that have been silenced (Schell, Ferguson, Hamoline, Shea, & Thomas-Maclean, 2009). In turn, those photographs then serve as the discussion point to critical dialogue, empowerment and action to take place. As will be discussed later, portions of the conventional photovoice method were employed with the college student participants and adapted for preschool children through the use of drawings.

1.2. Photovoice for Young Children

According to Piaget, activities such as drawing are key in allowing children who are in their preoperational period to represent their world; more specifically, to represent their experiences and the concepts associated with those experiences. It may be argued that the intricate fine motor abilities required to effectively use cameras for photovoice may limit young children's ability to take photographs. One of the most effective ways to encourage learning and reflection in young children may be to allow students to identify the contemporary and personal relevance of the material encountered. Moreover, the education of the whole child, which aims to integrate student's evolving selves and their culture into the education process, is now not only the mission of various K-12 schools but also many Pre-Kindergarten and early childhood education programs. This method allows children to visually represent their thoughts and their abilities while their abstract thought processes are still in their formative years. Developmentally, by the age of three, children begin drawing squiggles and simple shapes. At this stage children are capable of making six recognizable diagrams or shapes (i.e., rectangles) and seminal works such as *The Psychology of Children's Art* have argued that "developmentally, the diagrams indicate an increasing ability to make a controlled use of lines and to employ memory" (Kellogg, 1969: p. 45). By the time a child is four, these diagrams are coupled and put together in various combinations and the transition to pictorialism and more representational drawing begins. Research has shown, however, that children's early drawings while still primitive in form do not mirror their emotional life but rather reflect their motor limitations of the hand and arm (Fogel, 2009). Therefore, it is believed that children possess the cognitive ability to interpret their experiences and the use of the photovoice methodology can provide the platform for their voice to be heard.

From its inception, drawing has been part of early childhood education programs globally and particularly so in the U.S. This is in large part because young children seem to naturally gravitate to art areas where they are offered

the opportunity to indulge freely into a world of self-expression. It is crucial when drawing with young children that the drawing instrument be developmentally appropriate for children in order for them to be able to use it effectively and for it to not detract from the reflection experience. Thick crayons or markers are easier for younger preschoolers to grasp because their fine motor coordination is still in its formative stages. Also unlike water colors or paint that often run, crayons and markers offer a more easily controlled process helping to facilitate young children's emerging pictorial representations. Moreover, providing the preschoolers with a blank sheet of paper to draw on does not limit or in any way inhibit their expression the way dittos or coloring books may but rather encourages them to use and, thus, help develop their very own individual voice. Furthermore, this approach is concurrent with current early childhood developmental research which affirms that asking children to "color within the lines" is not developmentally appropriate as it involves fine motor control that is well beyond most preschoolers developmental capacities (Mayesky, 2006).

Wang and Burris (1994) are credited with the origins of photovoice and they in turn, reference an original empowerment project that developed out of Peru as providing a model for their seminal photovoice study (previously termed photo novella). This original empowerment project involving illiterate/semi-literate rural women in Peru, sought to depict the living conditions of these women. Interestingly, many of the women in this project had reported never having used a pencil before or been offered the opportunity to study anything (Wang & Burris, 1994). Booklets with simple line drawings were created that depicted the living conditions and challenges of the women. The booklets were created as coloring books and the women were given coloring pencils and crayons to complete them with (Wang & Burris, 1994). The women discussed the colored pictures with trained community workers and had opportunities to then inform dialogue and community action. Much of the original work of Wang and Burris (1994) is credited to this original project that took place in Peru. It is reported that the women in this project also had overwhelmingly positive feedback in regards to the creative coloring activity (Wang & Burris, 1994).

Consequently for the purposes of this study, the researchers adapted the photovoice methodology to adjust for young children's emerging fine motor abilities and as a result rather than have the young children take pictures with a camera the researchers in this study asked the children to draw pictures capturing their understanding of their service learning experiences. Drawing pictures is something much more familiar and arguably more developmentally appropriate to many preschool age children attending early childhood programs in the U.S. and children who use the same media such as markers repeatedly will over time develop the skills required to utilize them.

1.3. Service Learning

To achieve maximum learning potential, this study posits that teaching should provide a means to connect students' living with their learning. The pedagogical approach that allows for the effective formation of that link is the increasingly popular phenomenon of a specific model of non-traditional learning termed *service learning*. "Service learning is a form of experiential education in which students engage in activities that address human and community needs together with structured opportunities intentionally designed to promote student learning and development. Reflection and reciprocity are key concepts of service learning" (Jacoby, 1996, p. 5). Service learning has also been referred to as a method that progressively teaches and connects community service and academic study (Colby, Bercaw, Clark, & Galiardi, 2009). This non-traditional method of learning places students at the forefront of an active education through experience and reflection. It is believed that in addition to the experiential learning taking place, the reflection piece is crucial in examining the effects of the service experiences on individuals.

Research on service learning as a movement suggests that it has originated rather recently and garnered acceptance and growth within the past two decades in institutions of higher education (Jacoby, 1999; Harkavy & Hartley, 2010). Grounded in higher education, service learning has gained support within higher education in the form of federal funding (Butin, 2006), college student participation (Harkavy & Hartley, 2010), faculty support (Butin, 2006) and organizational support (Curley & Stanton, 2012; Campus Compact, 2013). In this study service learning is examined for its effects on college students in institutions of higher education and additionally the impact service learning has on young children. The authors of this article posit that through the pedagogical tool of photovoice coupled with service learning experiences, college students and young children are able to understand, reflect on and potentially inform and work better with their peers and within communities. As a research method, photovoice utilizes cameras in the hands of participants to gather perspectives that may not be captured through

discussion solely or the use of surveys (Davison, Ghali, & Hawe, 2011). Further, photovoice as a pedagogical tool allows teachers to encourage their students to meaningfully "participate and engage in understanding, caring for, and transforming the world to which they belong" (Cook & Buck, 2010: p. 35).

Historically, institutions of higher education have had trouble providing stimulating and varying forms of service learning experiences to university students (Quezada & Christopherson, 2005). The benefits and outcomes for college students engaging in service learning can be highlighted as a powerful experience. Therefore, it may be important to understand if service learning can provide the same experiences for young children. Consequently, this study asks: Can young children cognitively understand and articulate the experience of engaging in service? What implications does this pedagogical paradigm have for them? The rationale for using both college students and young children in the current study is to see what pedagogical outcomes emerge for both populations and, also, how can early childhood practitioners begin to construct curriculum that may utilize a pedagogical experience that differentiates from the "typical" or "traditional" college student models of service learning.

Ethridge and Branscomb (2009) utilize a service learning project in which university students use an anti-bias curriculum with young children to understand the "parallel" learning processes at work in both the children and the adults. By adapting the photovoice methodology for preschool age children and looking at how visual imagery can be employed we seek to understand the parallel learning experiences of both groups. We posit that the children and college students are apt to sharing in the pedagogical lessons uncovered through their service experiences and reflections and furthermore a communal growth and knowledge can be gained. The role of teachers can be to serve as active agents and conduits of knowledge by being the funnels through which information and opportunities are relayed to their students. As mentioned above, to optimize the service learning experience, the reflection component of learning must be critically examined and further developed.

1.4. Volunteer Functions Inventory (VFI)

The Volunteer Functions Inventory measures students' motivations for volunteering using six subscales and 30 items that correspond to functional motives (Clary et al., 1998). While this measure will be described in more detail below, it is important to note the effectiveness of this inventory and why it is used to measure the functional motives that undergird student motivation. Further, the six subscales from the VFI are used to compare and determine the thematic analysis of the photovoice contributions from both the college students and the preschool children participants.

College Student Motivation

According to Eppler, Ironsmith, Dingle and Errickson (2011) those that volunteer may appear to show similar reasons for volunteering but in fact may have different underlying motivations. In their study that sought to examine the effects of service learning on racist attitudes as well as the functional motives of students, it found decreased levels of racism over the semester (Eppler et al., 2011). However, Eppler and colleagues (2011) do suggest that the decrease in racism may reflect changing attitudes related to the overall general college experience. Further, Eppler and colleagues propose that volunteering motives may be more appropriate for measuring how service learning can influence students and predict whether they will continue to participate in volunteer activities. This study employed the Volunteer Functions Inventory (VFI) and found that service learning students saw their work as a way to foster personal growth and development. This was an unexpected finding by the researchers but they concluded that service learning appears to be a valuable tool in helping students define career goals, develop their identity within the larger community and adapt to social expectations (Eppler et al., 2011).

In another study that examined self-reported motivations for college students engaging in service, they found motivations such as developing skills, intrinsic, extrinsic and requirements (Chesbrough, 2011). External motivators were usually initial motivations and were found to diminish in importance by year in school and number of hours of service. Internal motivators such as humanitarian concerns were stronger motivators as year in school and number of hours increased in service. Chesbrough (2011) also found that gender played a factor with men and young students often engaging in service initially because of a requirement but once involved, they were likely to continue their involvement.

2. The Current Study

In the current study, service learning and photovoice methodology are coupled to compare the pedagogical effects

of service learning on both college students and young children. This study by adapting the photovoice methodology for preschool age children looks at how visual imagery can be employed to enhance and examine learning experiences for both groups. Due to the fact that each of the researchers was connected to specific aspects of the current study, they worked to ensure that their undue influence remained as limited as possible. Two of the researchers were connected to a service learning course at each of the universities sampled and one of the researchers was connected to the university-based child care center. Therefore, the two researchers (connected to a service learning course) collected, analyzed and coded the data from the university-based child care center. In turn, the other researcher (not connected to the service learning courses) collected, analyzed and distributed the survey and aspects of the study involving the college student participants. One teacher at the university-based child care center volunteered to implement the photovoice portion of the study with each of the child participants and was trained by the researchers (not connected to the child care center) on this adapted method.

3. Methods

3.1. Participants

3.1.1. College Student Participants

The participants from this study reflected a convenience sample and were chosen from two universities in Southern California. The target population of undergraduate students from two Southern California universities consisted of those who were currently enrolled in a service learning course. Thirty-nine college students ranging in age from 18 - 26 years were sampled from 119 total students for participation in a Qualtrics survey. One of the universities was also, the university from which the preschool children were sampled. Of the 39 survey participants, 36% referred to themselves as Asian, 3% as African American, 36% as Hispanic/Latino, 23% as White, 3% as Pacific Islander and 10% as other. From that, 23% were male and 77% were female. For the photovoice portion, approximately 25% of the survey participants participated. As this was an additional voluntary portion of the survey, there was no demographic information taken for the students who submitted photos.

3.1.2. Preschool Participants

Upon approval from the Institutional Review Board, the researchers obtained both parental consent and child assent before implementing photovoice in the classroom. Twenty-five preschool children between three-and-a-half to five years of age were randomly selected from three different classrooms at a private non-profit university-based childcare center. Of the 25 preschool participants, there were 12 boys and 13 girls. All photovoice sessions were audio-recorded and transcribed verbatim for analysis upon completion of the study.

3.2. Measures

3.2.1. Volunteer Functions Inventory (VFI)

An online anonymous survey was administered to 119 undergraduate students and they were given two weeks to complete it. As described earlier, the measure employed for the college student participants was the Voluntary Functions Inventory (VFI), which is often cited as the most prominent in the study of attitudes for motivation in the literature (Clary et al., 1998; Vocino & Polonsky, 2011; Francis, 2011). The VFI protocol consists of 30 items that identify six types of functional motives: values, social, career, understanding, enhancement and protective (Vocino & Polonsky, 2011). According to Francis (2011), over 200 journal articles cite Clary and colleagues' (1998) model for capturing the motivations of those that volunteer. While the VFI provides a solid marker for measuring the motivations of our sample of college students, the addition of photovoice was used to capture additional findings that may not be possible through survey methods. The VFI was anonymous and optional for the college student participants, however, if they decided to participate in the photovoice portion, they were informed that their responses would be used to inform practice and dialogue.

3.2.2. Photovoice with College Students

Photovoice as a methodology was used with both the college student participants and the young children participants to inform the impact of service learning on both populations and further determine if similar effects arose for both. The survey included a second optional portion for college students to capture their service experience through a photo and a description. This second portion of the survey prompted the college student participants to

submit a photo and a description that depicted their service experience. Upon completion of the survey, college student participants were given the option to continue with an optional question of the survey in which they were provided with a prompt. The prompt asked simple questions based off of the SHOWeD technique and Freirean concept (Strack et al., 2010) commonly employed with photovoice methodology: 1) What do you see? 2) How does this relate to Our (Your) lives?

3.2.3. Photovoice with Preschool Participants

The adapted photovoice methodology used with the 25 preschool children utilized a familiar teacher at the childcare center to dialogue with the children and ask them to draw pictures reflecting on their service experiences. Initially, the teacher would initiate a discussion about what service is and if the child was familiar with it or examples of it and then both would engage in a discussion. The teacher would then provide the child with a paper and a markers or crayons to draw and reflect on the discussion they had just engaged in. The teacher followed a predetermined prompt when engaging with the child participants and used follow-up questions when needed to gain deeper insight into the thoughts of young children and how they viewed service. The children's answers were audio recorded with a tape recorder and subsequently transcribed and thematically coded.

4. Results

4.1. Quantitative Findings

Statistical analysis of the undergraduate survey collected from 39 undergraduate participants from two different universities revealed the following data. There appeared to be no statistically significant variance between income level on any of the six motivation scale variables with the exception of the scale "enhance" at the significance level of $p < 0.05$. There appears to be a clear association between race (white vs. nonwhite) and all six of the motivation scales. Also interesting to note is that in terms of the order, the motivation scales of "understanding" and "values" are the most important across all groups and "career" and "enhance" fall in the middle rating while "social" and "protective" are the least important. These were the same order of themes that emerged when analyzing the qualitative data from the preschoolers. This indicates that both preschoolers and undergraduate college students may experience similar motivations when engaging in service.

4.2. Qualitative Findings

The college students' photo descriptions were thematically coded and five themes emerged which were then linked to the VFI functions. The children's picture transcriptions were also coded and similar themes related to the college student themes emerged. The photos and pictures were able to capture and serve as visual representations for the hypothetical constructs that emerged from the college student descriptions. These themes will be explained below and were determined by utilizing the voices of the participants. For the purposes of this section, pictures or drawings will be the term used to describe the adapted use of photovoice for children's drawings and photos/photographs will refer to the conventional method employed with the college student participants.

The six functional motives were each linked to an emerging theme that was determined by the photovoice descriptions given by the participants. Five themes emerged: leadership, service and giving back, love and happiness, mutual/bidirectional impact and awareness of community needs. The five themes were then linked to the VFI functional motives and the following functional motives were found: understanding, enhancement and values (See **Table 1**).

4.2.1. College Student Participant Themes

Of the survey participants, approximately 25% participated in the photovoice portion. From the college student photovoice participants, 50% wrote in their description that their submission was a photo that encapsulated their entire service experience. The college student participants submitted a total of 15 photos.

Leadership. Based on the participants' descriptions, the leadership theme was defined through the use of words such as role models, social catalysts or other similarly related terms. *"I think the image does a good job at depicting that we are there to lead but also that we can also have a lot of fun in the process."* Leadership as a theme emerged from 50% of the participants. College student participants described their service experiences as leading others, being a leader in their service work and becoming a leader that extends beyond their service and impacts the community.

Table 1. Linking Volunteer Functions Inventory (VFI) Motives to photovoice themes.

Photovoice Themes	VFI Functional Motives
Leadership	Understanding
Service and Giving Back	Values
Love and Happiness	Enhancement
Mutual/Bidirectional Impact	Understanding
Awareness of Community Needs	Values

Service and Giving Back. This theme was visually depicted in many of the college students and children's photos and drawings. "*Watching the pictured child's confidence and abilities grow, I learned how valuable service experience is to my personal emotional and spiritual growth.*" Service and giving back was defined using terms such as civic engagement, service, helping, educational support, and volunteering. This theme was captured in 80% of the participants' descriptions. One college student participant description stated, "*The picture encapsulates my service learning experience because it conveys multivalent aspects of civic engagement. The first instances of my service were initially predicated by the sheer happiness that came as a byproduct of my service.*" Another participant writes, "*I selected this picture because I feel that it encapsulates my service...*"

Love and Happiness. Love and happiness as a theme was coded from 50% of the participants descriptions. Words such as fun, enthusiasm, compassion, nice and excited were coded under this theme. "*It is representative of many things-perseverance, inspiration, and most importantly love.*" Phrases such as this are illustrative of the ways in which love and happiness were captured through the use of photos and descriptions from the college students. Love and happiness were described and depicted typically as a result of the college students engaging and participating in service. One participant describes a story and an illustration of love and compassion after describing some challenges in working with a preschool child named Joe (pseudonym). "*Joe presented me with this particular letter. He explains that it says, 'Dear Jessica* (*pseudonym*)*, I love you. Love, Joe.' This image defines my entire experience because it shows love and compassion behind the act of serving.*"

Mutual/Bidirectional Impact. "*I selected this image because it is a strong testament of the impact of* [*the program*]*—not just on the children we serve, but on the individuals who serve.*" The mutual or bidirectional impact theme was coded for descriptions that mentioned some form of impact of their service on both parties. "… *it underscores the happiness for both parties, but is also largely symbolic of the mutual impacts we have on each others lives.*" The mutual or bidirectional theme was found in 50% of the participants' descriptions. This theme was typically found in the college students work with young children and the idea that not only are they serving but also gaining in the process of their service. "*It reminds me that we serve each other because we must. We learn from each other…*"

Awareness of Community Needs. Awareness of community needs was coded from the descriptions through the use of words that described an understanding of societal needs, necessity, future impact, "not having", and the importance of education from a social justice perspective. "*So many children fall behind at an early age because of their difficulty with reading. By being able to engage them at such an early age and show them that reading can be fun, we can hopefully see improvements in their early childhood literacy.*" Awareness of community needs was coded from 60% of the participants' responses. "… *he lifted my spirits and my awareness to the needs of society. The work we do at* [*the program*] *provides the educational support needed by impoverished communities…*"

4.2.2. Preschool Participant Themes

The researchers did not identify two of the themes explicitly in the preschool participants transcriptions or pictures as will be described below.

Leadership. Interestingly, the leadership theme was the one of two themes that was not explicitly stated or found in the young children's photovoice transcriptions.

Mutual/Bidirectional Impact. Mutual and bidirectional impact was the second theme that was not explicitly found in the children's transcriptions.

Service and Giving Back. In describing how they help their neighbor, one child participant explains, "*Some-*

times I give her new dolls… Because I just think it's nice. Cause some new dolls aren't so special to me. So I give her some". In the picture drawn by the child, they drew themselves in the middle and their neighbors in a box with a room for girls and one for boys. "*I made a box and I made throw them. There like this and I'll make me. And a box. And I made liked girls room now boys room. Will be a little hard to draw. There, it's all there*". (See **Figure 1**).

Love and Happiness. Happiness could be found in the children's photovoice drawings as those that depicted pictorials of people often included smiling faces. In a conversation with one child participant, they noted that helping others when they fall down is important. "*No, I say, I say this, Are you feel better*? (See **Figure 2**) *yeah and then she feel down and she feel better… Because it's nice and then if you fall, I'm gonna help you*."

Awareness of Community Needs. In discussing how his mom helps other people, one child participant stated "*she sends money to different countries. She donates… because they don't have clothes, or food*." When asked where his mom donates food to, the child responded with "*I think New York*". In response to questions asked by the teacher, the child also stated that if he had the chance to help other people, he would "*give them food*". Furthermore, if asked if they believe every person in the world had access to food, the child responded with no and when asked why they stated, "*Um, I don't know. They just don't have money*". In describing how to help those that are hungry, the child explained, "*We can go to the supermarket and get them food and send it*". After the discussion, the teacher offered paper and markers to the child to draw their thoughts around service, the child began to draw a purple person with long legs and when asked where they lived, the child responded "*Um, in New York*". In discussing the drawing with the child, they went through a list of things that the person might like to eat, "*salad, chicken, broccoli, tomatoes, popcorn*." Another child participant stated, "*Because they don't have a home. Some other people don't have homes… Because they don't have a home and a bed… Maybe they died because homes die when they're old… you can build one*." (See **Figure 3**).

5. Discussion

5.1. Motivations behind Service

The results of the study found that the same order of VFI motives emerged when analyzing both the quantitative and qualitative data from both groups. This indicates that both preschoolers and undergraduate college students may experience similar motivations when engaging in service. In linking the VFI functional motives and themes of the photovoice findings, understanding and values ranked as the most important values. Understanding and values were discussed as two of the highest ranking motives behind why college students engage in service. Therefore, when linking the VFI motives to the emerging themes, we see that these two values are present amongst both preschoolers and college students. Leadership and mutual or bidirectional impact could be linked to the understanding theme, which is defined as "the degree to which volunteering provides opportunities for new learning experiences and to use knowledge, skills, and abilities" (Bringle, Phillips, & Hudson, 2004). The

Figure 1. A child participant's drawing depicting service and giving back to her neighbor/friend.

Figure 2. A child participant's drawing of helping and happiness.

Figure 3. A child participants' drawing of food that might help those that do not have food (drawing labeled by teacher).

awareness of community needs and the service and giving back themes could both be linked to the values motive, which is defined as "the degree to which volunteering expresses altruistic and humanitarian concern for others" (Bringle, Phillips, & Hudson, 2004). The love and happiness theme was linked to the enhancement motive which is defined as "the degree to which volunteering allows the person to avoid guilt and better cope with personal problems" (Bringle, Phillips, & Hudson, 2004).

5.2. Young Children

Similarly, for the preschoolers, this study finds that the themes for the college students also applied to the children for all of the themes except two: leadership and mutual or bidirectional impact. This may highlight the need to address leadership in curriculum for young children. Explicitly explaining how young children can function as leaders in their everyday life can be an impactful and invaluable tool for teachers. It also provides young children with the language and knowledge that empowers them to share their personal stories and to serve as advocates for others. In discussing leadership, children may begin to understand and articulate their thoughts and feelings around helping others as Quezada and Christopherson (2005) state "it is well documented that community service learning has a positive effect on both the provider and recipient" (p. 14). This could potentially help children see the bidirectional impact that may exist when engaging in service. Yet, the researchers do believe that young children do exhibit leadership and understand the reciprocity and impact of their actions. This just may not have been captured fully in the current study. The photovoice portion of the study for children provides a strong case for

the value and importance of their experiences and ability to reflect on them. It was evident in the stories of the children that they had drawn upon previous experiences to inform their current reflections on service. The ability to reflect on this further supports and provides understanding for those seeking to strengthen children's awareness of community needs, their own understanding about how they are impacted by such experiences and the impact they have on others.

Consequently, through this preschool adapted photovoice methodology, children are encouraged to express their thoughts, feelings and emotions reflecting on their service learning experience with these media. Perceived as a symbol-making activity, the children are urged to communicate their construction of concepts through their drawings. The drawings help facilitate children's understanding of their service learning experiences by offering the children developmentally appropriate tangible and concrete ideas into their less tangible abstract thoughts and feelings about service. This is in line with current instructional processes in early childhood programs where "Teachers observe children at work, listen to their responses and converse with them about their artwork to plan for their future needs and interest" (Zimmerman & Zimmerman, 2000: p. 90). As with other forms of artwork, teachers engaging in this photovoice study are asked not to make comments or judgments about the quality of the children's art nor provide specific models or direction on how to draw specific items.

5.3. Photovoice as a Pedagogical Tool

> *To me "pedagogy" is a more complex and extensive term than "teaching," referring to the integration in practice of particular curriculum content and design, classroom strategies and techniques, a time and a space for the practice of those strategies and techniques, and evaluation purposes and methods. All of these aspects of educational practice come together in the realities of what happens in classrooms… To propose a pedagogy is to propose a political vision*. (Simon, 1987: p. 371).

Using photovoice as a pedagogical tool supports the understanding that young children's development should be viewed holistically and that developmental domains must be viewed integrally and not as discrete, non-overlapping compartments. This type of pedagogical tool also specifies that the curriculum and learning taking place in early childhood classrooms be integrated as children's development in the cognitive and social emotional domains cannot be seen as parallel and distinct but rather as truly interwoven. Moreover, many current early childhood schools of thought such as the Reggio Emilia programs believe that drawing provides a strong form of symbolic communication of children's ideas, thoughts, emotions, and perspectives. Further, service learning concepts coupled with photovoice extends children's learning outside the classroom and into the community expanding children's worlds to meaningful experiences that affect their lives and providing a safe classroom space to authentically reflect on those experiences. The primary limitation of this study is the small survey response rate from the university students, however, findings provide strong implications for the potential use of children and college students to use photovoice practices in their service and as a tool to give voice to their work. Moreover, as we immerse ourselves into the age of the digital natives, photovoice methodology promises to be a powerful tool with the millennial generation, meeting these students with the modalities that they are increasingly more comfortable with and have easier access to. Yet, beyond the use of photovoice as a powerful pedagogical tool, lies the importance of communal action and dialogue connected to reflection and reciprocity, which were all found in the current study.

6. Conclusion

In conclusion, service learning coupled with photovoice methods has provided a strong implication for future research to determine and understand the pedagogical impact of extending student learning beyond the realm of the classroom and into the community. The results of the current study may suggest that service learning reflection can provide an empowering pedagogical practice for those who are engaged in it and furthermore, provide the space to critically reflect on, learn from, and engage in dialogue in the classroom about experiences that take place outside the classroom—during "practice" and in students' lives.

References

Bringle, R. G., Phillips, M. A., & Hudson, M. (2004). *The Measure of Service Learning: Research Scales to Assess Student Experiences*. Washington, D.C.: American Psychological Association.

Butin, D. W. (2006). The Limits of Service Learning in Higher Education. *Review of Higher Education, 29,* 473-498. http://dx.doi.org/10.1353/rhe.2006.0025

Campus Compact (2013). Who We Are. http://www.compact.org/about/history-mission-vision/

Chesbrough, R. D. (2011). College Students and Service: A Mixed Methods Exploration of Motivations, Choices, and Learning Outcomes. *Journal of College Student Development, 52,* 687-705. http://dx.doi.org/10.1353/csd.2011.0071

Clary, E. G., Synder, M., Ridge, R. D., Copeland, J., Stukas, A. A., Haugen, J., & Miene, P. (1998). Understanding and Assessing the Motivations of Volunteers: A Functional Approach. *Journal of Personality and Social Psychology, 74,* 1516-1530. http://dx.doi.org/10.1037/0022-3514.74.6.1516

Colby, S., Bercaw, L., Clark, A. M., & Galiardi, S. (2009). From Community Service to Service-Learning Leadership: A Program Perspective. *New Horizons in Education, 57,* 20-31.

Cook, K., & Buck, G. (2010). Photovoice: A Community-Based Socioscientific Pedagogical Tool. *Science Scope, 33,* 35-39.

Curley, M. F., & Stanton, T. K. (2012). The History of TRUCEN. *Journal of Higher Education Outreach and Engagement, 16,* 3-9. http://www.jheoe.uga.edu

Darbyshire, P., MacDougall, C., & Schiller, W. (2005). Multiple Methods in Qualitative Research with Children: More Insight or Just More? *Qualitative Research, 5,* 417-436. http://dx.doi.org/10.1177/1468794105056921

Davison, C. M., Ghali, L. M., & Hawe, P. (2011). Insights into the School Environment That Surveys Alone Might Miss: An Exploratory Pilot Study Using Photovoice. *Advances in School Mental Health Promotion, 4,* 44-51. http://dx.doi.org/10.1080/1754730X.2011.9715622

Eppler, M. A., Ironsmith, M., Dingle, S. H., & Errickson, M. A. (2011). Benefits of Service-Learning for Freshmen College Students and Elementary School Children. *Journal of the Scholarship of Teaching and Learning, 11,* 102-115. http://eric.ed.gov/?id=EJ956756

Ethridge, E. A., & Branscomb, K. R. (2009). Learning through Action: Parallel Learning Processes in Children and Adults. *Teaching and Teacher Education, 25,* 400-408. http://dx.doi.org/10.1016/j.tate.2008.09.004

Fogel, A. (2009). *Infancy, Infant, Family, and Society* (5th ed.). Cornwall-on-Hudson, NY: Sloan Publishing.

Francis, J. E. (2011). The Functions and Norms that Drive University Student Volunteering. *International Journal of Nonprofit and Voluntary Sector Marketing, 16,* 1-12. http://dx.doi.org/10.1002/nvsm.390

Harkavy, I., & Hartley, M. (2010). Pursuing Franklin's Dream: Philosophical and Historical Roots of Service Learning. *American Journal of Community Psychology, 46,* 418-427. http://dx.doi.org/10.1007/s10464-010-9341-x

Jacoby, B. (1996). *Service Learning in Higher Education: Concepts and Practices.* The Jossey-Bass Higher and Adult Education Series, San Francisco: Jossey-Bass.

Jacoby, B. (1999). Partnerships for Service Learning. *New Directions for Student Services, 87,* 19-35. http://dx.doi.org/10.1002/ss.8702

Kellogg, R. (1969). *Analyzing Children's Art.* Palo Alto, CA: Mayfield.

Mayesky, M. (2006). *Creative Activities for Young Children.* Belmont, CA: Wadsworth.

Quezada, R. L., & Christopherson, R. W. (2005). Adventure-Based Service Learning: University Students' Self-Reflection Accounts of Service with Children. *Journal of Experiential Education, 28,* 1-16. http://dx.doi.org/10.1177/105382590502800103

Schell, K., Ferguson, A., Hamoline, R., Shea, J., & Thomas-Maclean, R. (2009). Photovoice as a Teaching Tool: Learning by Doing with Visual Methods. *International Journal of Teaching and Learning in Higher Education, 21,* 340-352. http://www.isetl.org/ijtlhe/

Simon, R. I. (1987). Empowerment as a Pedagogy of Possibility. National Council of Teachers of English, *Language Arts, 64,* 370-382. http://www.jstor.org/stable/41961618

Strack, R. W., Lovelace, K. A., Jordan, T. D., & Holmes, A. P. (2010). Framing Photovoice Using a Social-Ecological Logic Model as a Guide. *Health Promotion Practice, 11,* 629-636. http://dx.doi.org/10.1177/1524839909355519

Vocino, A., & Polonsky, M. J. (2011). Volunteering for Research: A Test of the Psychometric Properties of the Volunteer Functions Inventory with Online Panellists. *International Journal of Public Opinion Research, 23,* 508-521. http://dx.doi.org/10.1093/ijpor/edr013

Wang, C., & Burris, M. A. (1994). Empowerment through Photo Novella: Portraits of Participation. *Health Education and Behavior, 21,* 171-186. http://dx.doi.org/10.1177/109019819402100204

Zimmerman, E., & Zimmerman, L. (2000). Art Education and Early Childhood Education: The Young Child as Creator and Meaning Maker with a Community Context. *Young Children, 55,* 87-92.

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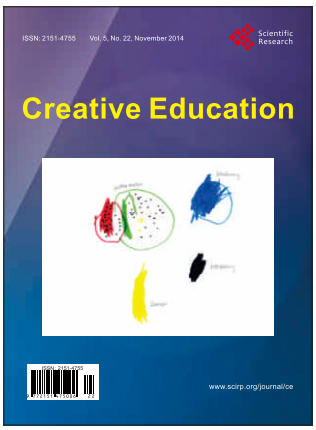

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