The Open University of Sri Lanka

OUSL JOURNAL

Volume 14, No. 1 - June, 2019

Published by The Open University of Sri Lanka, Nawala, Nugegoda, Sri Lanka.

The OUSL Journal is a peer-reviewed journal, published biannually by The Open University of Sri Lanka (OUSL).

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Subscription Rates

Local: Rs. 500.00; Foreign: US $ 25.00 (Inclusive of postage)

Local cheque should be crossed and made payable to the "The Open University of Sri Lanka" and should be addressed to the Librarian/OUSL.

Printed at The Open University Press
ISSN 1880-3621

The Open University of
Sri Lanka

OUSL Journal

Volume 14 No. 1
June, 2019

OUSL Journal

Volume 14, No. 1 – June, 2019

Published Biannually by The Open University of Sri Lanka (OUSL)

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OUSL Journal

Volume 14 No. 1 – June, 2019

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DOI: http://doi.org/10.4038/ouslj.v14i1.7457 *OUSL Journal, 2019*
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Editorial

This is the Volume 14, Number 1 of the OUSL Journal, the Journal of The Open University of Sri Lanka which is published biannually. The articles published in this Volume include research based on Agriculture, Education, Management, Languages and Health Sciences.

Drought stress is one of the most adverse limitations of local black pepper production in the Dry and Intermediate zones of Sri Lanka. Application of Super Absorbent Polymers (SAPs) is hypothesized to result in the optimized use of water resources in these regions. The paper titled "Influence of Super Absorbent Polymers (Saps) on Irrigation Interval and Growth of Black Pepper (*Piper Nigrum* L.) in Nursery Management" eplains a study conducted at the Intercropping and Betel research station to evaluate the effect of Super Absorbent Polymers on irrigation interval and growth of Black pepper (*Piper nigrum* L.). Higher level of Zeba is important to extend the irrigation interval. Plant parameters such as number of leaves, plant height, shoot fresh weight, shoot dry weight, root volume etc, were decreased with decreased Zeba amount and increased irrigation interval. However, considering cost effectiveness, 2g of Zeba with 8-day irrigation interval is considered as the best treatment. The study revealed that the Super Absorbent Polymers are important to overcome the water deficit when irrigation water is limited for Black Pepper in nursery management.

Action Research is considered as a viable mean for improving professional practices of teachers. Teachers can implement on-the-spot solutions to their day-to-day problems in the teaching-learning process through action research studies. The collaborative and participatory nature of the action research open avenues for both knowledge sharing and constructive feedback. Having realized the importance of action research for teachers the Ministry of Education has launched a project to promote action research studies among teachers. The study "An Analysis of Action Research Studies Conducted by Teachers in Sri Lankan Schools" is based on the research reports submitted by teachers who had engaged in the action

research studies in their own schools and evaluations done at different points of time on the progress of the research studies. This paper analyses the nature of problems considered by teachers for their action research studies, the innovative strategies adopted for the intervention process and the observations and reflections made during the intervention process on the changes experienced by participants. As the data analysis reveals, teachers are confident and capable of applying innovative strategies as solutions to the problems in their teaching-learning process. The students who had problems in relation to specific subject areas and overall behavior could overcome them in a step-wise manner. The culture developed among teachers through the conduct of action research studies led to develop the quality of teaching-learning process as well as excellence in the teacher's behavior.

There is a growing concern about the pervasive nature of counterproductive work behaviour (CWB) in many organizations across the globe. A review of the literature reveals that CWB usually goes unnoticed or unreported in the workplace due to perhaps its illegal nature and resultant consequences. The study on "Counterproductive Work Behaviour among Local Government Employees in Edo State, Nigeria" examined the forms and level of prevalence of CWB among local government employees in Nigeria. It also ascertained the relationship between psychological contract breach and CWB. The study employed a cross-sectional research design, and a structured questionnaire was used to elicit response from respondents. The data obtained were analysed using statistical tools such as mean, standard deviation and ANOVA analysis. The findings of the study revealed that CWB was exhibited at a moderate level in the studied local governments; and that there is a significant relationship between psychological contract breach and CWB. The study recommends that local governments in Nigeria should endeavour to fulfil their parts of the psychological contract. It is suggested that future studies should examine CWB across the various local governments in the six geo-political zones in Nigeria. In addition to the use of the questionnaire, future studies should combine the use of peer rating and supervisor's rating/report in assessing CWB among employees. In summary, this study provides an empirical validation

of CWB in the Nigeria context and revealed that psychological contract breach is a determinant of CWB in local governments in Nigeria.

Based on a narrative case study conducted in two in-service teacher preparation programs for English language teachers in Sri Lanka, the paper titled "The Complexity and Fear of Teaching the "other": the Role of Teachers in a Larger Process of Social Cohesion and Peace" explores the role of English language teachers in promoting social cohesion and peace. Set against Sri Lanka's National Policy on Social Cohesion and Peace (2008), which recognizes teacher agency and teacher education in actively working towards bridging the estranged Sri Lankan communities, the study critically analyzes what it takes for teacher education to prepare prospective teachers to be cultural brokers who are willing and able to take an active role in promoting social cohesion and peace. The national and program level policies and curricula changes are insufficient if micro level and more personal efforts are not made to assist new teachers to develop more inclusive mindsets. Conceptually findings are grounded on transformative approaches to pedagogy that highlight the agency of teachers and the need for teacher preparation programs to support new teachers to shape and craft their emergent transformative practices. Such approaches to teacher education identify teachers as transformative intellectuals whose role is recognized as being in tune with their social, political and historical realities. This perspective aligns with an approach in which the teacher's role extends beyond the mere transmission of knowledge and skills in the classroom to a broader, more inclusive vision of the whole socio-educational process.

Catheter-associated urinary tract infection (UTI) is one of the most common hospital-acquired infections around the world. Urinary catheter insertion is an invasive procedure to bypass the usual mechanism of voiding performed under aseptic technique by qualified nursing staff. In order to reduce infections due to urinary catheter associated infections, nurses need to adhere to the recommended guidelines and practices regarding indwelling urinary catheter insertion and catheter care. Knowledge and practices among nurses regarding the insertion and care of urinary catheter in female patients are highly essential to minimise complications related to indwelling

urinary catheter among female patients. According to the available scientific data, most of the catheter-related problems reported could be prevented or minimised with more attention to catheter management. However, there is a paucity of data available on this phenomenon in Sri Lanka. The research study on "Knowledge and Practices among Female Nurses on Insertion and Care of Indwelling Urinary Catheter to Female Patients in a Selected Teaching Hospital in Sri Lanka" is to determine knowledge and practices among female nurses regarding the insertion and care of indwelling urinary catheter to female patients at a selected teaching hospital. Findings revealed that only 36% of participants had a satisfactory level of knowledge on indwelling urinary catheter insertion. Most of the participants (79.5%) had a satisfactory level of practices regarding indwelling urinary catheter insertion. Eighty-two participants had an unsatisfactory level of knowledge regarding indwelling urinary catheter care. Seventy-eight participants had a satisfactory level of practices regarding indwelling urinary catheter care. In conclusion, the majority of the participants had an unsatisfactory level of knowledge regarding indwelling urinary catheter insertion and care. There is a need for training on indwelling urinary catheterization and care for nurses in Sri Lanka.

In the areas of child language development and language socialization, directives are an important topic. It shows the child's ability to make others do what they want, i.e. to 'direct' others' behavior. Research also shows that languages have different ways of forming directives, but most of this research is done on English and other Western languages. For example, there is little research on Sinhala directives and none on that we know of children's use of directives. The study on "Directives in Sinhala: Children's Speech and Adult Child-Directed Speech" uses recorded interaction of children and their caregivers as well observation to observe this phenomenon. The main aim of this study was to locate Sinhala directives as they are used by children and their adult caretakers. A secondary purpose is to contribute to the knowledge of Sinhala pragmatics by recording the linguistic features used to express directives in Sinhala. Through this discussion, the researchers also comment on (im)politeness in Sinhala directives.

In addition, this issue includes the 32nd OUSL General Convocation Address – 2019 delivered by Professor Saroj Jayasinghe titled "Compassion and the Professional: Two Sides of the Same Coin?" This speech highlights the importance of 'compassion' and describes its relevance to professionals. As an individual engaged in a professional career, he or she runs the risk of losing the ethical notions of compassion. However, there are steps to prevent such happenings and the speech offers preventive steps an individual could take to enhance compassion in their respective professional life. There is a way to enhance compassion through the arts, narratives and mindfulness, which may be useful for those developing curricula in The Open University of Sri Lanka.

We welcome your suggestions for further improvement of this journal. We are looking forward to publishing your current research findings in our next issue.

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How to Cite: Weerakoon, S.R., 2019. Editorial. *OUSL Journal*, 14(1), pp.1–5.

RESEARCH ARTICLE
DOI: http://doi.org/10.4038/ouslj.v14i1.7458

OUSL Journal, 2019
Vol. 14, No. 01, (pp. 7-25)

Influence of Super Absorbent Polymers (Saps) on Irrigation Interval and Growth of Black Pepper (*Piper nigrum* L.) in Nursery Management

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Abstract

Drought stress is one of the most adverse limitations of local black pepper production in Dry and Intermediate zones of Sri Lanka. Application of Super Absorbent Polymers (SAPs) is hypothesized to result in the optimised use of water resources in these regions. A study was undertaken to examine the effect of different levels of irrigation intervals and different level of SAPs and then to find out the best treatment combination for growth of black pepper plants

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(Received 14th February 2018; Revised 18th October 2018; Accepted 10th January 2019)

How to Cite: Rasanjali, K.G.A.I., De Silva, C.S. and Priyadarshani, K.D.N., 2019. Influence of Super Absorbent Polymers (Saps) on Irrigation Interval and Growth of Black Pepper (*Piper nigrum* L.) in Nursery Management. *OUSL Journal*, 14(1), pp.7–25. DOI: http://doi.org/10.4038/ouslj.v14i1.7458

under nursery management. The experiment was conducted at Intercropping and Betel Research Station, Narammala. GK49 was the selected variety and Zeba (commercial name) was the selected SAP type. The experiment was carried out following a factorial layout based on Complete Random Design (CRD) with three replicates. The factors were three levels of irrigation intervals as 4, 8 and 10 days (T1 to T3) and four levels of SAPs as no Zeba, 1g, 1.5g and 2g of Zeba (L1 to L4). Plant growth parameters were measured at two weeks interval and all the parameters were analysed by anova using SAS software. Statistical analysis had shown that there were significant effects ($P<0.05$) of main factors and their interactions on plant parameters. Plant parameters were decreased with decreased Zeba amount and increased irrigation interval. In this study 2g of Zeba with 4 and 8-days irrigation interval (L4T1, L4T2) and 1.5g of Zeba with 4 days of irrigation interval (L3T1) treatments were the better treatments. However, considering the cost effectiveness 2g of Zeba with 8 days irrigation interval (L4T2) treatment is recommended as the best treatment for increasing plant performances and decreasing water stress conditions to the plant. Therefore, the results of this study showed that SAPs can store and absorb a considerable amount of water and reduce unfavourable effects of water shortage on black pepper plants in nursery management.

Key words: Black Pepper, Irrigation interval, Plant parameters, Super Absorbent Polymers, Water stress.

Introduction

Background and justification

Black pepper (*Piper nigrum* L.) is a member of the Piperaceae family. Pepper is a perennial evergreen climbing vine, cultivated for its fruit, which is usually dried and used as a spice and seasoning. Black pepper is considered as the 'King of Spices' due to its high demand in the global context and also referred as 'Black gold' due to its higher prized trade. Black pepper is economically the most important and the most widely used spice crop of the world (Ravindran, 2000). Black pepper oil distilled from the fruits was used in perfumery. Export volume of Black pepper in Sri Lanka has

increased from 7930 MT in 2014 to 16,656 MT in 2015 and export earnings have increased by 116% over previous years from Rs.Mn 9,029 to Rs.Mn, 19,543 in 2015 (DEA, 2015). India was the main buyer of pepper from Sri Lanka and purchases comprised of 54% of pepper export in 2015 (DEA, 2015). Black pepper is imported usually for value addition purposes when local raw materials is inadequate and the low import of pepper in 2015 indicate that the value-addition companies have largely used local black pepper for their industries (DEA, 2015).

In Sri Lanka, pepper is mostly grown in low and mid country wet and intermediate agro-climatic zones. Pepper is cultivated in an area of 31,997 ha (DEA, 2013). The spiciness of black pepper is due to the chemical piperine. Sri Lankan black pepper contains a higher amount of piperine which influences a premium price in international spice trade. High yielding ten local pepper selections have been identified by the Department of Export Agriculture of Sri Lanka, considering the characteristics such as high pungency, bold berries, continuous bearing habit, resistance to pest and diseases, etc. They are IW5, MB12, MW18, MW21, GK49, KW3O, KW31, KW33, TG7 and DM7. In addition to local types, two high yielding cultivars namely, Panniyur -1 (PAN) from India and Kuching (KU) from Malaysia were introduced to Sri Lanka in the 1970s. Butawerala, Dingirala and Kohukumburerala are high yielding hybrids which were newly released in 2015 (DEA, 2011).

Today, environmental conditions are so unpredictable due to climate change impacts and global warming. Recent studies using general circulation models, predicted increased temperature by 2050 in all regions of Sri Lanka which would induce high soil moisture deficit (De Silva *et al,* 2007). According to the Second National Communication (2011), in Sri Lanka temperature is expected to rise from 1.1– 2.4 °C by 2100, depending on the emission scenario. The trends for mean surface temperatures show a trend of 2.6 ^{o}C/100 years on average in annual average maximum temperature and 1.7 ^{o}C/100 years for annual average minimum temperature in Sri Lanka. Jiang & Huang (2001) reported that the increased frequency of temperature stress can disrupt the physiological processes of plants resulting in photosynthetic inhibition, lowered nitrogen anabolism and higher protein catabolism. Many researches stated

that the temperature stress influenced on vegetative growth of crops and furthermore, Bita & Gerats (2013) reported that the vegetative plant parts show various morphological symptoms in response to heat stress. Water stress is also one of the major factors that influenced crop cultivations. Hatfield *et al.,* (2015) reported that the growth and development of plants are affected by decrease in rain fall due to water stress. In the dry zone it is predicted by HadCM3 general circulation model that there would be a decrease in rainfall and an increase in soil moisture deficit, which would demand high irrigation water requirement (De *Silva et al.,* 2007). According to the historical precipitation records over the monsoon regions around the globe, Kitoh *et al.,* (2013) reported of a decreasing trend in the global land monsoon precipitation over the last half of the 20th century. When there is inadequate irrigation water plants will undergo stress and the productivity will be reduced. Therefore, it is essential to identify adaptation measures to cope with the situation. A crop like pepper needs regular watering to produce a high-quality product. Drought stress limits the plant growth of black pepper and creates difficulties in the nursery management. Areas with prolonged drought may not be suitable for cultivation unless there are adequate facilities for irrigation. Prevalence of sufficient rainfall during the flowering season is essential to ensure maximum pollination. Current climatic changes are increasing the incidence and severity of droughts. De Zoysa *et al.,* in 2014 reported that, in 2011 approximately 55% of the land area, mostly in the dry and intermediate zones, received less than 10% of the normal rainfall. Yazadani *et al.,* (2007) reported that during severe droughts, when there was no water in the irrigation channels in the dry zone crops would fail. Panniyur has a good ability to tolerate drought conditions. But its quality is low and the incidence of diseases is high when compared with the local types (DEA 2011). Therefore, Sri Lanka pays much attention to promote local types. But the problem is its low drought tolerance ability. Dishani and De Silva (2016) reported that the farmers face problems regarding the availability of groundwater for agriculture when droughts are frequent. Therefore, effective and efficient water management is vital to overcome all these problems. Superabsorbent Polymers (SAPs) are more important in regions where water availability is insufficient (Maboko, 2006; Monnig, 2005) and furthermore, Huttermann *et al.,* (1999)

reported that the SAPs prolonged water available for plant use when irrigation stopped. Yazdani *et al.,* (2007) reported that using SAP in drought stress and water shortage conditions can improve the yield of soybean. Furthermore, Allahdadi (2002) reported that the SAPs compound help to increase the amount of available moisture and to reduce water stress of plants resulting in increased growth and plant performance.

Super Absorbent Polymers (SAPs)

Super Absorbent Polymers have been established as a soil conditioner to reduce soil water loss and to increase crop growth. They can absorb and retain 1000 times more water than their original size and weight (Sojka & Entry, 2000). In this study SAPs were used to conserve the soil moisture so that irrigation interval could be increased to better use the limited irrigation water.

SAPs have been established as soil conditioner and it is vital to reduce soil water loss and increase crop yield. They are hydrophilic in nature and can retain water to 1000 times of its weight. As an environmental protection material, it is totally non-toxic, harmless and non-polluting. SAPs are used in agriculture for soil water retention, seed coating, soil-less cultivation, artificial turf, etc. It is important for improving seed germination and giving plants an early, healthy start, saving irrigation water and increasing crop and fruit yield. When water comes into contact with one of these polymeric chains of SAPs, it is drawn into the molecule by osmosis. Water rapidly migrates into the interior of the Super Absorbent Polymer (SAPs) network where it is stored. As the soil dries out, the polymer then releases up to 95% of the absorbed water back into the soil. SAPs are produced from acrylic acid and a cross-linker by solution or suspension polymerization. The type and quantity of cross-linker control both the swelling capacity and gel modulus. SAP, absorbent polymers, absorbent gels, super soakers, gel crystals, are materials that swell in water to form a clear gel made up of separate, individual particles. The product can improve soil quality, preserve water and resist drought, producing a better environment for plants to grow and develop.

Therefore, a study was carried out to understand the influence of different weight of organic based Super Absorbent Polymer (Zeba) on irrigation intervals and to identify the best treatment combination of irrigation interval and weight of super absorbent polymer for growth of black pepper plants under nursery management.

Methodology

The study was carried out in a plant house at the Intercropping and Betel Research station, Department of Export Agriculture, Narammala, Dampelessa from January to December 2017. Local Black pepper type GK49 was selected for the experiment. Nursery media was prepared by using equal parts of top soil, sand, cow manure and coir dust. Ground runners were used to take cuttings. Amount of water that needs to fulfil the field capacity was measured by using volume basis method and pressure plate apparatus (Cresswell *et al.,* 2008). Two nodal cuttings were used as planting material.

Preparation of black pepper cuttings

Ground runners of GK49 were used to take two node cuttings using a sharp knife. Leaves which were located below the 2nd node were removed and half of the leaf which was located at the first node was removed to reduce transpiration losses by plant. Cuttings were treated with a Captan fungicide (N-trichloromethylthio-4-cyclohexene-1) solution. Lower node was buried in the pot and the plants were immediately watered. The pots were kept in a propagator to induce shoot and root growth. Propagator was prepared in the plant house and 40 -50 % sunlight and 85 -95 % relative humidity were maintained. Propagator was opened after four weeks and the weeds were removed and sufficient amounts of water were added to the plants followed by closing the propagator for two more weeks and thereafter the polythene cover of the propagator was removed and plants were acclimatized to the environment. The plant house roof was covered using transparent polythene to avoid rainwater falling onto the plants.

Experimental design

Treatments were arranged in a Completely Randomized Design (CRD) with three replicates as a pot experiment. Each replicate consisted of forty plants. There are two factors of irrigation interval (T) and four weights of Zeba (Organic based super absorbent polymer) (L). Three irrigation intervals were applied as 4 days, 8 days, and 10 days. Four weights of Zeba were applied as 1g per 1 kg of soil, 1.5 g per 1 kg of soil, 2 g per 1 kg of soil and for the control without super absorbent polymers. There were twelve treatment combinations after combining three watering intervals and four weights of super absorbent polymers.

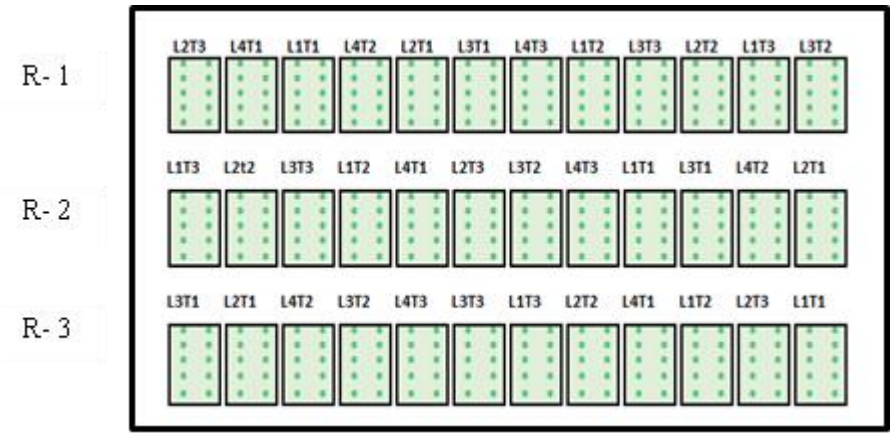

Figure 1: Field Layout

1. **L1T1** – No Zeba + 4 days of irrigation interval
2. **L2T1** – 1g of Zeba per 1 kg of soil + 4 days of irrigation interval
3. **L3T1** – 1.5g of Zeba per 1 kg of soil + 4 days of irrigation interval
4. **L4T1** – 2g of Zeba per 1 kg of soil + 4 days of irrigation interval
5. **L1T2** – No Zeba + 8 days of irrigation interval
6. **L2T2** – 1g of Zeba per 1kg of soil + 8 days of irrigation interval
7. **L3T2** – 1.5g of Zeba per 1kg of soil + 8 days of irrigation interval
8. **L4T2** – 2g of Zeba per 1kg of soil + 8 days of irrigation interval

9. **L1T3** – No Zeba + 10 days of irrigation interval
10. **L2T3** – 1g of Zeba per 1kg of soil + 10 days of irrigation interval
11. **L3T3** – 1.5g of Zeba per 1kg of soil + 10 days of irrigation interval
12. **L4T3** – 2g of Zeba per 1kg of soil + 10 days of irrigation interval

Parameters collected

Plant parameters, survival rate, height of the plat, number of leaves, number of roots, root length, shot fresh weight, shoot dry weight, root fresh weight, root dry weight, root volume and leaf temperature were taken 1 ½, 2, 2½, 3, 3 ½, months after planting.

Observation of Plant Parameters

All the following data (Table 01) were subjected to Analysis of Variance (ANOVA) using SAS software package. Mean separation was done by Least Significant Difference Test (LSDT) at 0.05 level of probability.

Table 1: Plant parameters and the methods of measurement

Parameters collected	Measurement techniques	Units
Survival rate	After opening the propagator, survival rate was calculated for each treatment	%
Height of the plant	Height of the plant was taken from randomly selected two plants from each replicate by using a tape. Height was measured from base to tip of the plant.	cm
Number of Leaves	Number of new leaves of the plant was counted by randomly selected two plants from each replicate.	-
Number of Roots	Number of roots of the plant was taken by using randomly selected two plants from each replicate and counted number of roots arisen from cutting surface.	-
Root length	Root length was measured using randomly selected two plants from each replicates. Root length was taken using grid method by using	cm

	1cm grid paper. Root length(R) = Number of intercepts (N) X Length conversion factor Length conversion factor for 1cm grid paper is taken as 0.7857	
Shoot fresh weight	Fresh weight of randomly selected two plants from each replicate was measured by using electronic balancer.	g
Shoot dry weight	Shoots of plants were put in to the oven in 70^0C temperature until weights of the shoots became constant.	g
Root fresh weight	Root fresh weight of randomly selected two plants from each replicate was measured by using electronic balancer.	g
Root dry weight	Dry weight of roots was obtained by putting in to oven at 70 ^{0}C temperature until the weights of roots became constant.	g
Root volume	Root volume was measured using 100 ml gravimetric bottle	cm^3
Leaf temperature	Leaf temperature was measured of randomly selected two plants from each replicate using Infrared thermometer.	^{0}C

Results and Discussion

1. Growth parameters

Plant survivability

According to the Figure 2, treatment 2g of Zeba with 4 days irrigation interval (L4T1) showed the highest percentage of survivability (95%). The second and third highest survivability were observed in 1.5g of Zeba with 4 days irrigation interval (L3T1) and 2g of Zeba with 8 days irrigation interval (L4T2) treatment respectively. The treatment that consisted of no Zeba with a 10-day irrigation interval (L1T3) showed the lowest percentage of survivability (78.33%). High weight of Zeba (2g, 1.5g) with 4 days of irrigation interval and 8 days of irrigation interval were very effective.

Survivability of all the treatments without Zeba showed lower survivability percentage with all irrigation intervals.

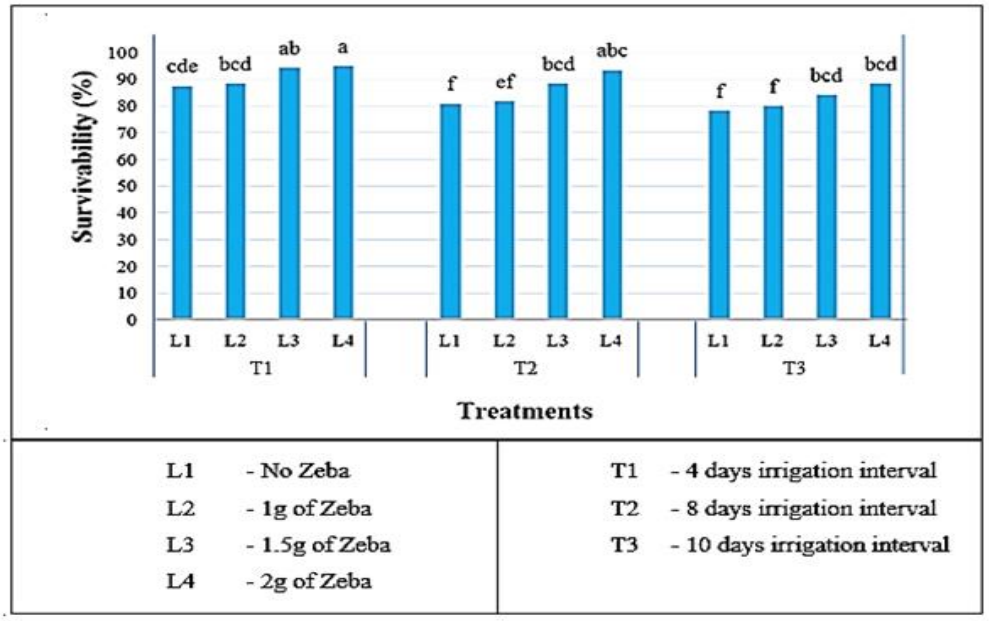

Figure 2: Plant Survivability in percentage.
(Treatments are significantly different if they do not share a letter (s) in common adjusted P value < 0.05)

Plant height

Plant height showed an increasing trend from 2nd month to 3 ½ month after planting. The treatment consisted of 2g of Zeba with 4 days irrigation interval (L4T1) and showed the highest plat height but it was not significantly different from 1.5g of Zeba with 4 days irrigation interval (L3T1) and 2g of Zeba with 8 days irrigation interval (L4T2) treatments. The treatment that consisted of no Zeba with 10-day irrigation interval (L1T3) showed the significantly (<0.05) lowest plant height (Table 2). All the treatments with Zeba showed better performances than the treatments without Zeba. Atiyea *et al.,* (2013) reported that application of super absorbent polymers increases plant height and agreeed with the results of this research. Therefore, high weights of Zeba positively influence the plant height. All the treatments with longer irrigation interval resulted in lower height of the plants. Yang *et al* (2006) reported that reduction in water supply caused decrease in cell elongation. Furthermore Yang

et al., (2006) and Haji Hassani *et al.*, (2011) reported that drought stress via reduction in cell turgidity, cell growth, cell volume and number of stem cells reduced plant height.

Plant height was a dependable variable and according to the interaction analysis plant height varied with both factors, irrigation interval and Zeba weight. Therefore, there was a significant interaction effect ($P<0.05$) in treatment combination (Zeba*Irrigation interval). Keshavars *et al.*, (2012) also reported that various irrigation interval and super absorbent levels had significant effects on plant height.

Width of the leaf

Width of the leaf showed an increasing trend from 2nd month to 3 ½ month after planting. The treatment consisted 2g of Zeba with 4 days irrigation interval (L4T1) and showed the highest leaf width (Table 2). However, it was not significantly different from 2g of Zeba with 8 days irrigation interval (L4T2) treatment and 1.5 g of Zeba with 4 days irrigation interval (L3T1) treatment. The treatment that consisted of no Zeba with 10-day irrigation interval (L1T3) showed the lowest leaf width. It could be due to the influence of soil moisture deficit. This result agrees with Keshavars *et al.*, (2012) reporting that drought stress reduced the individual leaf size. Therefore, when irrigation interval was extended it resulted in leaves with low width and also all the treatments without Zeba resulted in lower width of leaf due to moisture stress to the plant. Therefore, the width of leaf was decreased in treatments in the following order; L4T1 ≥ L4T2 ≥ L3T1. According to the interaction analysis, width of the plant leaf varied according to both factors; irrigation interval and Zeba weight. Therefore, there was a significant interaction effect ($P<0.05$) in Zeba* Irrigation interval (treatment combination).

Number of leaves

The number of leaves showed an increasing trend from 2nd month to 3 ½ month after planting. The treatment consisted of 2g of Zeba with 4 days irrigation interval (L4T1) and showed the highest number of leaves (Table 2). However, it was not significantly different from the treatments of 2g of Zeba with 8 days irrigation interval (L4T2) and 1.5g of Zeba with 4 days irrigation interval (L3T1). The treatment

that consisted of no Zeba with 10-day irrigation interval (L1T3) showed the lowest number of leaves. The number of leaves became low when irrigation interval was extended. This result agrees with Keshavars *et al.*, (2012) finding as the number of leaves diminished with increase of the water deficit. Treatments of L4T1, L4T2 and L3T1 treatments were observed to be better treatments due to the high content of SAPs and suitable irrigation interval which provided enough moisture for plant growth and increased leaf number. The interaction effect of Zeba and irrigation interval significantly affected the dependable variable ($P<0.05$).

Shoot fresh weight

Shoot fresh weight showed an increasing trend from 2nd month to 3 ½ month after planting. The treatment of 2g of Zeba with 4 days irrigation interval (L4T1) showed the highest shoot fresh weight and it was not significantly different from 1.5g of Zeba with 4 days irrigation interval (L3T1), and 2g of Zeba with 8 days irrigation interval (L4T2) treatments (Table 2). The treatment that consisted of with 10-day irrigation interval (L1T3) showed the significantly ($P<0.05$) lowest shoot fresh weight. Doraji *et al.*, (2005) and Abayomi *et al.*, (2002) reported that crop growth rate decreased with the increase of water stress as well as crop growth rate increased with increasing amount of SAPs in soil. The shoot fresh weight varied according to both factors and interaction effect of Zeba and the irrigation interval was significant ($P<0.05$).

Shoot dry weight

Shoot dry weight showed an increasing trend from 2nd month to 3 ½ months after planting. The treatment L4T1 (2g of Zeba with 4 days irrigation interval) showed the highest shoot dry weight. However, it was not significantly different from 1.5g of Zeba with 4 days irrigation interval (L3T1) and 2g of Zeba with 8 days irrigation interval (L4T2) treatments. The treatment that consisted of no Zeba with 10-day irrigation interval (L1T3) showed the significantly ($P<0.05$) lowest shot dry weight (Table 2). Treatments with 2g and 1.5g of Zeba showed higher shoot dry weights than other treatments. These research findings can be justified with the Earl & Davis (2003) findings. They reported that active O_2 causes damages to the cellular membranes under water stress conditions because of lipids

peroxidization. Therefore, it finally leads to decrease of the plant chlorophyll content and results in reduced dry matter content of plant. According to the interaction analysis, dry weight of shoots varied according to both factors and interaction effect of Zeba and the irrigation interval was significant (P<0.05).

Table 2: Combined effect of irrigation interval and Zeba rate on the growth parameters of Black pepper

Treatments	Plant height (cm)	Leaf width (cm)	Number of Leaves	Shoot fresh weight (g)	Shoot dry weight (g)
L1T1	9.167^{d}	4.533^{e}	2.166^{d}	3.157^{e}	0.376^{e}
L1T2	5.467^{g}	3.967^{f}	2.333^{cd}	2.181^{g}	0.083^{g}
L1T3	2.833^{h}	2.417^{h}	1.333^{e}	1.711^{h}	0.032^{h}
L2T1	10.233^{c}	5.183^{d}	3.166^{b}	4.286^{c}	0.427^{d}
L2T2	7.083^{e}	4.533^{e}	2.166^{d}	3.713^{d}	0.278^{f}
L2T3	5.983^{f}	3.083^{g}	1.333^{e}	2.763^{f}	0.093^{g}
L3T1	13.016^{a}	7.517^{a}	4.666^{a}	5.300^{a}	0.688^{ab}
L3T2	8.983^{d}	6.567^{b}	3.000^{bc}	3.808^{d}	0.509^{c}
L3T3	7.083^{e}	5.733^{c}	2.000^{de}	2.142^{g}	0.273^{f}
L4T1	13.066^{a}	7.767^{a}	4.666^{a}	5.327^{a}	0.698^{a}
L4T2	12.900^{a}	7.550^{a}	4.000^{a}	5.232^{a}	0.693^{a}
L4T3	12.300^{b}	6.217^{b}	3.000^{bc}	4.840^{b}	0.658^{b}
Irrigation interval	P<0.05	P<0.05	P<0.05	P<0.05	P<0.05
Zeba rate	P<0.05	P<0.05	P<0.05	P<0.05	P<0.05
Irrigation interval*Zeba rate	P<0.05	P<0.05	P<0.05	P<0.05	P<0.05
CV%	2.167	3.414	13.863	3.579	3.957

L1: 0 g of Zeba, L2: 1 g of Zeba, L3: 1.5 g of Zeba, L4: 2g of Zeba, T1: 4 day, T2: 8 day, T3: 10 day

Root length

The root length showed an increasing trend from 2nd month to 3 ½ month after planting. The treatment of 2g of zeba with 4 days irrigation interval (L4T1) showed the longest root length (Table 3). However, it was not significantly different from 1.5g of Zeba with 4 days irrigation interval (L3T1) and 2g of Zeba with 8 days irrigation interval (L4T2) treatments. The treatment that consisted of no Zeba

with 10-day irrigation interval (L1T3) showed the lowest root length (Table 3). Root length varied according to both factors and interaction effect of Zeba and irrigation interval (Zeba*Irrigation interval) was significant (P<0.05).

Root volume

The root volume showed an increasing trend from 2nd month to 3 ½ month after planting. The treatment of 2g of Zeba with 4 days irrigation interval (L4T1) showed the highest root volume. However, it was not significantly different from 1.5g of Zeba with 4 days irrigation interval (L3T1) treatment, 2g of Zeba with 8 days irrigation interval (L4T2) treatment and 2g of Zeba with 10 days irrigation interval (L4T3) treatment. The treatment that consisted of no Zeba with 10-day irrigation interval (L1T3) showed the lowest root volume (Table 3). The treatments which consisted of 1.5g and 2g of Zeba levels showed higher root volume in all irrigation intervals when compared with other treatments. Application of Zeba was more effective than control treatments. Extending irrigation interval resulted in lower root volume.

Table 3: Combined effect of irrigation interval and Zeba rate on root length and root volume of black pepper plant

Treatments	**Root length (cm)**	**Root volume (cm^3)**
L1T1	30.433^{e}	0.578^{d}
L1T2	15.500^{g}	0.407^{de}
L1T3	10.306^{h}	0.284^{e}
L2T1	35.033^{d}	0.864^{c}
L2T2	30.163^{e}	0.536^{d}
L2T3	18.595^{f}	0.3715^{de}
L3T1	41.118^{a}	1.206^{a}
L3T2	39.146^{b}	0.963^{bc}
L3T3	29.152^{e}	0.586^{d}
L4T1	41.093^{a}	1.221^{a}
L4T2	40.856^{a}	1.208^{a}
L4T3	37.066^{c}	1.190^{ab}
Irrigation interval	P<0.05	P<0.05
Zeba rate	P<0.05	P<0.05
Irrigation interval*Zeba rate	P<0.05	P<0.05
CV%	2.473	15.25

L1: 0 g of Zeba, L2: 1 g of Zeba, L3: 1.5 g of Zeba, L4: 2g of Zeba, T1: 4 day, T2: 8 day, T3: 10 day

Root volume varied according to both factors and interaction effect of Zeba and irrigation interval (Zeba*Irrigation interval) was significant ($P<0.05$).

Leaf temperature

The Treatment that consisted of no Zeba with 10-day irrigation interval (L1T3) showed the highest leaf temperature (Figure 3) and it could be due to high moisture stress to the plant. The treatment of 2g of Zeba with 4 days irrigation interval (L4T1) showed the lowest leaf temperature. However, it was not significantly different from 2g of Zeba and 8 days irrigation interval (L4T2) and 2g Zeba and 10 days irrigation interval (L4T3). Therefore, treatments without Zeba and longer irrigation interval resulted in the increase of leaf temperature. When Zeba was present, moisture stress was relatively low.

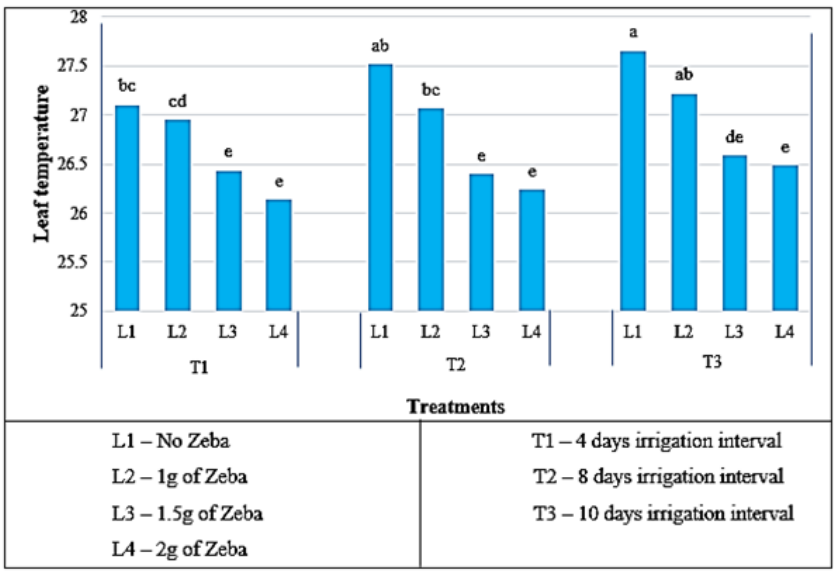

Figure 3: Leaf temperature 3 ½ months after planting

Treatments are significantly different if they do not share a letter (s) in common adjusted P value < 0.05

Cost Benefit analysis

According to Table 4, Zeba cost increased with the weight of the Zeba used. Similarly, irrigation cost decreased with increase in irrigation interval. When the price of the pepper plant was 30 rupees (current price in Kurunegala (2017)), the highest income was obtained in treatment of 2g of Zeba and 4 days irrigation interval (L4T1). But when the profit was considered the best treatment was 2g of Zeba and 8 days irrigation interval (L4T2). Therefore, the use of Zeba helps to increase the irrigation interval from alternative days to 8-day irrigation interval which would be helpful in a drought situation.

Table 4. Cost benefit analysis of the treatments

Treatments	Cost for Zeba/1000 plants	Cost for irrigation/1000 plants	Gross income per 1000 plants	Profit (Gross income– cost for Zeba and irrigation)
L1T1		9000	26250	17250
L1T2		4500	24099	19599
L1T3		3600	23499	19899
L2T1	1500	9000	26490	15990
L2T2	1500	4500	24500	18500
L2T3	1500	3600	24000	18900
L3T1	2250	9000	28230	16980
L3T2	2250	4500	26490	19740
L3T3	2250	3600	25250	19400
L4T1	3000	9000	28500	16500
L4T2	3000	4500	27990	20490
L4T3	3000	3600	26490	19890

Conclusions and Recommendations

Treatment with 2g of SAP with 4 days irrigation interval (L4T1) resulted in better plant performances than the other treatments. However, 2g of SAP with 8 days irrigation interval (L4T2) treatment and 1.5g of SAP with 4 days irrigation interval (L3T1) treatment were not significantly different from L4T1 treatment. Therefore, considering cost effectiveness, 2g of Zeba with 8-day irrigation interval (L4T2) is considered the best treatment to obtain promising results. All the treatments without Zeba showed poor plant

performances. It could be due to the lack of soil moisture to the plant. Therefore, super absorbent polymers could be used successfully to overcome the water deficit when irrigation water is limited for Black pepper in nursery management.

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RESEARCH ARTICLE
DOI: http://doi.org/10.4038/ouslj.v14i1.7459

OUSL Journal, 2019
Vol. 14, No. 01, (pp. 27-48)

An Analysis of Action Research Studies Conducted by Teachers in Sri Lankan Schools

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Abstract

Action research is becoming popular in the school system as a viable mean for empowering teachers. It provides teachers the opportunity to improve their reflective practice and to implement solutions to problems they face in the teaching-learning process. Considering the potential benefits of action research to teachers, students and school community at large, the Ministry of Education of Sri Lanka had launched a project aimed at empowering teachers with required skills and motivating them to conduct action research studies. About 84 teachers who had sent their research proposals in response to an open invitation sent by the Ministry of Education in early 2017 were called

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(Received 24th September 2018; Revised 14th January 2019; Accepted 19th February 2019)

How to Cite: Lekamge, G.D. and Thilakeratne, J., 2019. An Analysis of Action Research Studies Conducted by Teachers in Sri Lankan Schools. *OUSL Journal*, 14(1), pp.27–49. DOI: http://doi.org/10.4038/ouslj.v14i1.7459

for a series of workshops through which their original proposals were fine-tuned and knowledge and skills on action research were enhanced.

This paper analyses the nature of problems considered by teachers for their action research studies, the innovative strategies adopted for the intervention process and the observations and reflections made during the intervention process on the changes experienced by participants. As the analysis reveals, teachers are capable in applying innovative strategies as solutions to the problems in their teaching-learning process. Further, it is evident that many students who had problems in coping with day-to-day activities in their classrooms benefitted through the interventions. It is recommended that school authorities should develop a supportive environment within their schools to motivate teachers towards action research studies as they provide on-the-spot solutions to the problems in the teaching-learning process.

Keywords: Action research, intervention process, innovative strategies

Introduction

Action Research is defined "as a form of collective self-reflective inquiry undertaken by participants in social situations to improve the rationality and justice of their own social education practices, as well as their understanding of these practices and situations in which these practices are carried out. The approach is only action research when it is collaborative, though it is important to realize that the action research of the group is attached through the critically examined action of individual group members" (Kemmis & McTaggart, 1985). Action research in education can be defined as the process of studying a school situation to understand and improve the quality of the educative process (Johnson, 2012). It offers multiple beneficial opportunities for those professionals working within the teaching profession (McTaggart, 1997). It is gaining recognition in the school system as it provides teachers the opportunity to improve their reflective practice and to implement solutions to problems they face in the teaching-learning process (Ferrance,2000). Hansen (1996) had

given a detailed explanation about the benefits of action research to teachers. According to Hansen, it helps teachers develop new knowledge directly related to their classrooms, promotes reflective teaching and thinking, expands teachers' pedagogical repertoire, puts teachers in charge of their craft, reinforces the link between practice and student achievement, fosters an openness toward new ideas and learning new things, and gives them ownership of effective practices. Development of teachers in those areas will directly have an impact on student learning and development will in turn contribute to the upliftment of schools. Considering the potential benefits of action research to teachers, students and school community at large, the Research and Development Branch of the Ministry of Education, Sri Lanka has launched a project aimed at empowering teachers with required skills and motivating them to conduct action research studies in 2016.

Action Research Project of the Ministry of Education

In 2014, the Ministry of Education took a decision to support teachers and In-Service Advisors (ISAs) in the form of financial grants and specialist assistance in developing creative activities based on action research, which would help to develop new models in the teaching-learning process. This project was jointly conducted by the Research & Development Branch of the Ministry of Education, Department of Research & Development at the National Institute of Education and the Faculties/Departments of Education in the Universities. Applications were called from qualified Teachers and In-Service Advisors who were interested in conducting action research to apply for research grants along with their research proposals.

Those proposals were reviewed by expert panels comprising senior academics of Universities. Then, the teachers were informed about the acceptance or rejection of their proposals by the Research Unit. The teachers whose proposals were accepted were invited to participate in a series of workshops prior to engaging in the action research studies in their schools. These workshops covered important aspects such as: 1. Introduction to action research 2. Characteristics of action research 3. Action research process 4. Data collection in action research 5. Writing reflective journals 6. Triangulation of data/evidence and 7. Report writing. It was expected that these workshops would help teachers to improve their understanding on action research approach

prior to reporting progress to their supervisors and get feedback continuously during the study period either face-to-face or on-line.

In the last three (2013,2014 & 2017) years, about 300 teachers/In – Service Advisors have been engaged in action research studies aimed at creating meaningful changes in their teaching-learning processes as well as in the student performance. It was further believed that those teachers would be able to find on-the -spot solutions to the problems they faced while developing themselves as reflective practitioners. It was expected that these teachers would share the knowledge and skills gained through this project with fellow teachers and contribute to develop a research culture in their school settings. Further, many students who had difficulties in coping with the normal teaching-learning process were provided with opportunities to develop themselves according to their own pace.

However, so far, an in-depth analysis has not been carried out by the Ministry of Education to find out whether the project had provided meaningful insights to develop and apply new models in the teaching-learning process.

Review of Literature

Action research is popular among teachers due to its ability to provide on-the-spot solutions to their problems in the teaching -learning process without controlling the classroom setting. Action research design includes two main parts: a small-scale intervention and a close examination of the intervention. The salient characteristics of action research embrace the systematic process, participatory and collaborative approach, self-reflective practice, self-evaluative nature etc. (McNiff, 2002; Cohen & Manion, 1989; Carr & Kemmis,1986). Further, Schon (1983) explained that action research proceeds by doing and by making mistakes in a self-reflective spiral of planning, action, observing, reflecting and re-planning etc. Thus, a significant feature of action research is that it operates in cycles. In other words, action research process would include many cycles to cover different aspects of the study.

Noffke (1997) suggested that the action research methodology lends itself effectively to a broad range of beliefs and relationships —

analogous to a family. Reason & Bradbury (2008) further elaborate that the participatory, democratic process of action research seeks to bring together action and reflection, theory and practice, in participation with others, in the pursuit of practical solutions to issues of pressing concern to people, and more generally the flourishing of individual persons and their communities (Reason & Bradbury, 2008).

As explained by Hensen (1996), action research promotes reflective teaching and thinking, expands teachers' pedagogical repertoire, puts teachers in charge of their craft, reinforces the link between practice and student achievement, fosters an openness toward new ideas and learning new things, and gives teachers ownership of effective practices. Further, through action research, teachers are empowered to make informed decisions about what to change and what not to change, link the knowledge gained with practice, learn from positive and negative experiences and systematically improve their own practice and student outcomes, (Gay *et al.,* 2015). Some of the characteristics highlighted in the literature were used in this analysis to get a meaningful understanding about the action research studies conducted by the teachers.

Methodology and Objectives

A documentary survey was carried out using the research reports submitted by teachers in 2017. Their reflective notes, evidence produced and presentations done (presentations were recorded and slides were available for about 30 teachers) at different points of the study to show their progress. About seven teachers who made presentations had neither submitted reports, nor reflective notes. So, they had to be removed from the analysis.

The objectives of the present paper are to analyze the nature of problems considered by teachers for their action research studies, the action research process applied, changes experienced by participants and the relevancy of the conclusions made at the end of the study. In addition, several suggestions for improvement of the action research project will be suggested.

Nature of problems considered by teachers for their action research studies

Action research studies conducted by the teachers focused considerably on the problems related to subject matter (subject specific-9 out of 23) and out of them the majority (4 out of 9) were targeting the subject of Science (Table 1). Three other studies were based on IT and Mathematics and one on Geography. "Skills specific" action research studies (8) targeted the development of basic skills such as reading and writing of Sinhala or English Language which demand urgent attention of school authorities. Three studies focused on behavior problems (behavior specific) of students which should be considered as a common issue in most of the classrooms in Sri Lankan schools. Another three studies were related to problems of school management.

Another distinguishing feature that emerged from the data was that teachers tend to do individual action research (16/25) rather than doing collaborative action research in their schools. Those who had done collaborative research were either deputy principals or sectional heads who were able to get support from other teachers and students without much difficulty. Most of the action research studies (16) were targeting grade 6-10 students whereas only five studies focused on A/L students. It could be further observed that subject-specific, skills-specific and behavior-specific problems were common among studies on grade 6-10 students in schools. A manageable number of students (not more than 10) had been considered as the target group in most of these studies. In one study, the target group was teachers and, in another study, nearly 15 students in three groups had been used.

Table 1- Problems selected by teachers/ISAs for their action research studies and the grades

Subject specific	**Skills specific**	**Behavior specific**	**Management specific**
Low achievement in Mathematics (Grade 10)	Self-reading ability of students (Grade 6-7)	Disturbing behavior of students (Grade9)	Garbage management in the School (15)
Low achievement in Science (Grade 8-9)	Sinhala Letter writing skills (Grade 6)	Behavior problems of students (Grade9)	Develop co-curricular activities in school (school)

Analysis of Metric Maps in Geography (Grade 13)	Memory skills (Grade6)	Problems in moral conduct of students (Grade8)	Duties and responsibilities of prefects (Grade6-9)
Practical tests in Physics (Grade 12)	Problems in English writing (Grade10)		
Basic concepts related to 'Mole' in Chemistry (10)	Literary skills (Grade12)		
Understanding of Rhythm/music (Grade 8 and 7)	Pronounce problems of letters (mother tongue) (Grade8)		
Effect of Activity based learning in Science (Grade8)	Errors in letter writing (mother tongue) (3,6,7)		
Low performance in Information Technology (Grade 12)			
Lack of interest towards Information Technology (Grade 12)			

Action research Process applied in the research studies

In this section, the analysis of data was done in line with the three characteristics of action research identified through existing literature, namely:

a. Systematic process
b. Participative and collaborative nature
c. Self-reflective practice

a. Systematic Process

Action research apples a systematized process for data collection in a school setting. This systematic process includes, a sophisticated intervention plan, a step-by-step process moving through planning, action, observation to reflection and several cycles to experience positive changes in participants. Through the analysis of

presentations which were done one month prior to submission of reports, the gaps in the knowledge and skills of teachers could be identified about the systematic process of the action research. However, the final reports show a substantial improvement in this regard. In eight research studies, the researchers had developed sophisticated intervention plans incorporating specific problems, specific actions, expected outcomes, resources and proposed time for each action. However, only in five studies did the teachers mention about the four main steps recommended by Kurt Lewin to be implemented in an action research. The identification of the problem featured strongly in both presentations and research reports.

Further, there might be situations where two or three intervention cycles needed to be conducted at the same time by considering different levels of participants. In addition, it is highly unlikely that the whole group of participants would experience success at the end of each cycle (100% success is not possible) which necessitates re-implementation of the same cycles again with some minor or major revisions. Thus, it is necessary to review progress achieved by each student and revise the actions according to the level of participants. It was encouraging to find that the implementation of two (or three cycles) simultaneously; one for the achievers and one for non-achievers, was visible in several studies (9 out of 23) which can be considered as evidence for the effectiveness of training workshops conducted through the project. The best examples are given in Table 2 (source: Content analysis of the reports).

Table 2. Examples for two to three cycles of actions with several steps in each cycle

Teacher No. 8 How to improve student achievement in Science? (Grade 6) *Two cycles with re-arrangements of actions for the second cycle, a number of specific steps in each cycle, a very organized action plan with actions, resources, behavioral changes and time including reflections had been incorporated.*	Teacher No. 11 How to minimize difficulties of Grade 13 students in interpreting Metric Contour Maps? *Three cycles had been implemented with several sub steps to achieve targets. The activities in each sub step were properly planned and carefully implemented through*

TeacherNo.10 Improving writing ability of Grade 10 students *Three cycles of interventions were implemented considering different aspects of writing. Step by step process applied with several motivational strategies to help students move forward.*	*consideration of the progress of individual students.* Teacher No. 7 Improving Literary skills of Grade 12 students *First cycle was directed to identify the problem using informal discussions. Identification of the problem was illustrated in the reflective journal (what did I do? what exactly happened? what did I think about it? What did I learn from what had happened)? Several Activities used were meaningfully to achieve targets.*

However, a substantial number of researchers (10) had not implemented several cycles but conducted only one cycle integrating meaningful and worthwhile steps as solutions to the problems at hand. Two such examples are given in Table 3.

Table 3. Examples for implementing activities step-by-step in one cycle

Teacher No. 18 *Teaching the concept of 'Mole' in Chemistry* *Intervention plan was conducted through 9 actions. Concepts were broken into small steps on which the actions were planned and conducted* *Systematic procedures were adopted for identification of students -Specific objectives had been identified for each intervention step.*	Teacher No. 21 *Development of co-curricular activities in the school* *Nine activities had been planned along with the resources and time frame to improve the existing situation. A concept map was prepared. Through a systematic plan, encouragement and evaluation the co-curricular activities of the school improved.*

Source: Extracts from the content analysis

There were four studies which exhibited limited understanding of teachers about action research design (Table 4). In one study, three methods were applied to the same student group to find the most suitable method for teaching practicals and in the other three studies, there were misunderstandings about research cycles, interventions, steps and samples used. At the presentations, sufficient explanations were given about the intervention though it is pity that processes of these studies have not been improved.

Table 4. Examples for limited understanding of the research process

Teacher No. 22 How to Improve Duties and Responsibilities of Prefects (Secondary level) *Systematic process had not been followed* *Teacher was not aware of the difference between interventions and activities.* *Only three activities had been conducted but mentioned as interventions.* TeacherNo.15 Problems in letter writing (Grade 5) *Four steps had been implemented to improve letter writing using the book 'Akuru Malu". There was no plan for conducting a separate cycle for those who cannot achieve the targets at the first instance.*	Teacher No.2 Teaching Practicals for GCE A/L classes *A survey design was used instead of the action research design. Three practicals were conducted using different methods to reveal the most effective method.* TeacherNo.16 Garbage problem in the school *2 ½ months intervention cycle with three steps was implemented. No detailed explanations about the steps used. Several student groups were used at different points of the study.*

Source: Extracts from the content analysis

There were three teachers (teachers No. 4,5,10) who had planned many activities under the intervention but ended up with implementing only a few due to unavoidable reasons. It would have been better if teachers could complete the activities which were already planned.

b. Participative and collaborative nature of the study

The collaborative nature of action research was highlighted by many researchers. Therefore, it was expected that teachers/ISAs engaged in these studies would collaborate with other teachers, students and parents in the school community through action research studies to gain an understanding on the crucial problems in their schools, to plan and implement step-by-step cyclical innovations as solutions to those problems, to critically reflect on each other's practices and to integrate rational practices to create a meaningful change in their day-to-day activities.

It was interesting to find that in all action research studies reviewed (23), collaboration and participation of students were visible (13 teachers) and several teachers have introduced reinforcement strategies (teachers No. 3, 6, 9) to obtain continuous participation of their target group throughout the study. It could be further observed that close collaborations were maintained by several teachers with fellow teachers in parallel classes or other classes (9 teachers). The situations in which such collaborations and participations of other teachers were visible could be listed as follows:

1. When exploring the reasons for the burning issues of the class/school (8)
2. When planning and conducting interventions with the target group (5)
3. When external evaluators were needed to assess the student progress in line with activities introduced by the teacher (2)

Most teachers who had participated in this project were either from IAB Schools (15) or National Schools (4) where parallel classes do exist, and fellow teachers were involved in teaching the same subjects. However, it was surprising to find that some teachers had not obtained the assistance or requested the participation/collaboration of other teachers when planning, conducting and assessing their interventions.

Parents' collaboration was obtained by three teachers to make the classroom an attracting place (teacher No. 3), to improve achievement in Science (teacher No. 8) and to improve student participation in co-curricular activities (teacher No.9). Altogether, three studies,

including action research on school management issues, were conducted in collaboration with and participation of all categories of stakeholders in the school community. However, such information was not available in their reports or in reflective notes in relation to eight teachers.

Table 5. Collaboration and participation obtained through the Action Research

With Principal/ Vice principal	**With Other Teachers**	**With Students**	**With Parents**	**No Information**
2 Teachers (No. 3, 9)	9 Teachers (NO. 3, 5, 6, 8, 9, 17, 19, 21, 20)	13 Teachers (No. 3, 4, 5, 6, 8, 7, 9, 11, 17, 16, 19, 21, 20,)	4 Teachers (No. 3, 8, 9,17)	8 Teachers (No. 1, 2, 10, 12, 13, 14, 22, 23)

Source: Extracts from the content analysis

At the progress review presentations held at the Ministry of Education, some teachers reported both positive and negative reactions of the school community towards their action research. There was one extreme case reported by a teacher about the hardship she had undergone due to negative attitude of the school principal and other teachers. As reported, her genuine interest and commitment to support students was misinterpreted and her capabilities were underestimated by others in the school. However, without the support of the school principals and other fellow teachers it is very difficult for a single teacher to conduct an action research in the school setting. In several cases, it was reported that student participation was low and keeping some students after school hours was problematic. As such the success of an action research will depend on the active participation and collaboration of students who will be the target group of the study.

C. Self-reflective practice

The reports produced by teachers, their presentations and reflective notes were thoroughly examined to uncover evidence on self-reflective practices of teachers. In some reports and notes (teachers No. 14,15, 18,19,21) the reflective practices were hardly evident. The Table 6

illustrates predominant areas and the real applications of reflective practices among teachers. However, it was with much difficulty that the researcher had categorized them into some specific areas as they exhibited multiple characteristics.

Table 6. Evidence for promotion of reflective practices in the action research

Teacher No. 3: Puts in charge of their practices (Pls revise: this is not clear) *I had to change the activities to suit the students' needs while expanding opportunities for students to learn by themselves.* *On the one hand I was happy that students have something to take back home.*	***Teacher No. 5: Reflective teaching and thinking*** *I planned a set of simple activities step-by-step and started my first activity using a periodic table.* *Happy to say that they all wrote elements correctly in the correct order.* *I had to play the video clip several times for them to learn*
Teacher No. 4: Puts in change of their practices (Pls revise: this is not clear: Puts is charge who???)) *I applied several strategies to help them understand concepts and tried to give reinforcements as much as possible.* *My strategy was working well for many students*	***Teacher No. 20: Conscious about actions*** *I was depressed after receiving complaints from other students, teachers and the class captain.* *So, a dislike was growing towards the teaching profession due to some students' behavior* *I could develop a close relationship with them* *With time students became very friendly with me.*
Teacher No. 11: Openness toward learning new things *Use of mobile phones for teaching was a novel experience for me – it helped to get their attention as well as give clear ideas about contours in maps.* *At the end of the first cycle progress achieved by students was not satisfactory*	***Techer No. 22: Conscious about change*** *When the first motivation lecture was conducted attendance was not satisfactory.* *However, it gradually increased with the guidance provided* *In the month of November, stability in the attendance of the senior prefects was observed.*

Teacher No.11-Puts in charge of effective practices (Not clear; you put in charge someone) Suggestion: Encourages effective practices *By giving them very practical experiences students were able to get a clear idea.* *In the teaching-learning process giving targets and helping students to achieve them through step by step reinforcements was very effective.*	***Teacher No. 13-puts in charge of effective practices*** *Second cycle was very successful as it was implemented with the support of other students.* *The students participated in the action research very willingly* *I really value their efforts*
Teacher-No.8 - Conscious about change *After the first motivation session student attendance did not increased.* *However, it gradually increased with the guidance provided. In the month of November, stability in the attendance of the senior prefects was observed.*	***Teacher No. 7- Reflecting on the outcomes of actions*** *I could not believe that the problem was that bad.* *The selection of the examples should have been done after discussing with students.* *I should not have concluded that their literary skills were somewhat high.*

Source: Extracts from teachers' reports

With reference to table 6, the teachers' openness towards learning new things would pave the way for acquiring new knowledge and skills required for teaching in the 21st century. When analyzing the evidence given, it was clearly observable that several teachers were very conscious about the actions implemented, outcomes experienced through actions and the actual change taken place in students at the end of the process. Such process will improve effectiveness and efficiency of teaching and learning thereby assuring benefits to both teachers and students. Further, these action research studies expanded opportunities for teachers to be in charge of their good practices certifying their ownership of those practices and strengthening their commitment and involvement in action research studies.

1. Changes experienced by participants through the action research

In this section, actual changes experienced by teachers and students through action research studies and evidence used to prove that the changes occurred are presented and analyzed (Table 5). However, there were several teachers (No.12,14,15) who had stated very broad objectives and were unable to pinpoint exactly what the changes occurred due to their interventions. Further, there were four teachers (No. 1,2,4,6) who had explained the changes occurred in students very briefly without substantial evidence (only marks). All the others had presented positive changes experienced by them with more evidence. It was very inspiring to find that three teachers (No.8, 11, 20) were very keen on their action research and have checked with all stakeholders (parents, students, other teachers etc) about the significance of the changes occurred through triangulating evidence. Among the changes reported, they had become very close to students, changed their routine day-to-day behavior, explored others opinion, become exemplary models to other students and developed a strong attachment and commitment to teaching etc. The students as the main recipients of these studies have also experienced substantial changes in their attitudes, habits, performance, attendance and skills through systematic, participative and reflective processes applied by those teachers. Tables 7a (3 research studies) and 7b (four research studies) illustrate only few examples extracted from the teachers' research reports. The changes are highlighted in bold letters for clarity.

Table 7a. Changes experienced, and evidence used in the research studies

Action Research Title	Changes experienced by the teacher (researcher)	Changes experienced by students as mentioned by teachers	Evidence used
3.Making my classroom a happy place	*I was very **close** to students* *A different type of communication had been maintained**:** **writing a letter** to*	*Students have **undergone a complete change in their behavior***	*Another teachers' opinion* *Reflective notes*

	parents mentioning positive things about the student and asking their help to complete activities at home	*Now I see* ***a great difference in their enthusiasm t****o learn Even weak students* ***asked me for clarifications.***	
6.Solving problems in letter writing	***Continuous monitoring*** *was adopted I identified the* ***need for continuing*** *the research with more interventions*	*There is a substantial improvement in* ***their letter writing***	*Observations Reflective notes*
7.Developing literary skills	*I also had* ***to read*** *the book to identify their objectives* *I developed* ***the habit of reading*** *books*	*Number of* ***books read has increased*** ***Creative writing*** *had improved (evidence given) Students themselves had* ***posed questions*** *about several books*	*Observations Work completed by students*

Source: Extracts from teachers' reports

Table 7b. Changes experienced, and evidence used in the research studies

Action Research Title	Changes experienced by the teacher (researcher)	Changes experienced by students as mentioned by teachers	Evidence used
8.How to improve student achievement in science	*Tried to* ***look after*** *the students always: Identified the* ***need for monitoring*** *student work individually: Reviewed lessons in previous terms briefly*	*Students* ***engage*** *in studies – teacher I* ***like*** *Science the most - student Science is* ***eas****y for me - student My child is very eager to attend school- parent*	*Discussions with students' parents Reflective notes*

	*Realized **the importance of providing first hand experiences** to students*	*My daughter **tries to complete** the activities in the text book- parent* *Miss changed the students completely - parent*	
11. Minimizing problems in understanding contours in Geography	*I develop strategies to give **step by step reinforcements** to students* *Significance of giving **practical experiences** was understood* *Need to give **individual attention** for weak students was recognized* *Changed teaching to discussions*	*Student **motivation** towards subject has improved* *Their knowledge on contours has **improved*** *They could **develop structures** correctly* *Majority were **eager** to complete homework* *Specific knowledge on different concepts has improved by using on-line material*	
19. Improving performance in science	*Teacher could reflect on the changes taken place in his/her own behavior to suit the activities and the effectiveness of the activities*	*A change in their behavior could be observed* *The observations made by other teachers have also confirmed that their behavior had improved.*	*Discussions with other teachers* *Observations*
20.Changing pro-social behavior of students	*I started **going early** to school and talked to students in a friendly manner* *Parents were saying that*	*Students were **eagerly waiting** to get a book from class library* *The act if running away from the*	*Reflections* *Discussions students, parents,* *Observations*

	*teacher was **very patient** with students When students changed their behavior my **stress gradually faded** away*	*classroom was reduced When Hiruni became the leader, she **stopped going out** from the class frequently Students' views:*	

Source: Extracts from teachers' reports

2. Relevance of the conclusions made through the action research

While doing the presentations before submitting their reports, most of the teachers were not very familiar with writing conclusions in a report and there were problems in linking objectives to final outcomes. However, through the feedback given by experts after each presentation, a substantial improvement could be noted in their reports. It was interesting to find that a substantial number of teachers were focusing on very specific outcomes when drawing conclusions (teachers No.3,4,8,11,20) of their research studies. For instance, changes experienced through different actions in individual students and the teacher, changes experienced in the teaching - learning process and the need for re-inventing the research cycles several times had been specified by some of them. Further, some teachers have extended the changes even to the parents. In some cases, interventions and outcomes were quoted with multiple evidence.

One common feature that emerged from some of the action research reports (No. 5,7,10,13,22) was that the conclusions were very general and not specifically linked with the interventions implemented. Even though teachers themselves had undergone some changes in relation to different aspects, they had not been given prominence in the presentations and reports. Table 8 highlights some examples of general conclusions and specific conclusions drawn by the teachers at the end of the report.

Table 8. Examples of general conclusions and specific conclusions drawn by teachers

General conclusions	Specific conclusions
Teacher No.5 – *Improving the understanding of concept of Mole among students* • *Visual aids to be used to explain difficult science concepts* • *Needs to use technology in the teaching -learning process* • *Interesting activities to be identified and used systematically* • *Collaboration and participation of students to be maintained throughout the intervention*	Teacher No. 3- *How do I make my classroom a happy place*? • *Reflective journal had given me enough evidence to learn that students enjoy learning and have changed their behavior positively* • *Through action research students have undergone a complete change in their behavior* • *Teacher can change behavior of students' parents*
Teacher No.7- Developing literary creations in students • *Step by step students' literary abilities can be improved.* • *Weak students could improve themselves under the guidance of the teacher.*	Teacher No. 4- *Improving performance in mathematics in Grade 10 students* • *The performance of students (listed) has improved* • *Individual attention should have been paid to weak students* • *The relationship between the weak students and the teacher was very distant* • *The students who showed poor performance had problems with conceptualization of subject content*
Teacher No. 10- Improving writing ability of grade 10 students • *Most of the students started to use the language confidently* • *Many students improved their marks*	*Teacher No. 8- How to improve achievement in science* • *A re-intervention cycle was needed to support those who have not attained the outcomes* • *Identified the need for monitoring student work individually*

• *Almost all students knew how to develop an argument*	• *Realized the importance of providing first hand experiences to students* • *Special needs students also had shown some improvement* • *Student attendance could be improved by providing enjoyable learning situations*
Teacher No. 13- To improve understanding of rhythm in Dancing *Conclusions made only thorough observations but not using other means.* *Observation data had been transferred to marks. Justifiable evidence had not been provided* • *Student abilities had been improved.* • *Students have completed the work allocated to them*	*Teacher No. 11- Minimize difficulties of Grade 13 students in interpreting Metric Contour Maps?* • *Videos were more useful to weak students* • *Significance of giving practical experiences to these students was understood* • *Individual attention for weak students was recognized* • *Giving feedback on the spot to was necessary* • *Specific knowledge on different concepts had been improved by using on-line material*
• *Teacher No. 22- How to improve duties and responsibilities of prefects* *The conclusions do not link with objectives.* • *Prefects develop their personalities through the given tasks* • *They need to be given opportunities to play role models and make them aware on them*	*Teacher No. 20- Changing pro-social behavior of students* • *Going early to school and talking to students in a friendly manner had improved student behavior* • *My patience had a positive impact on student behavior* • *Students' behavior changes have reduced my stress as well*

Source: Extracts from the content analysis

Conclusions and recommendations

The following are general conclusions that could be drawn through the analysis of research reports, presentations of teachers and parts of the reflective journals submitted by them.

- Action research studies have provided on-the-spot solutions to day-to-day problems in the teaching-learning process.
- Interventions related to the action research studies have paved way to create changes in students as well as in teachers.
- Support provided throughout this project has strengthened the action research process and outcomes of these action research studies.

The following specific conclusions could be derived through this analysis:

- Most of the action research studies completed under the project focused on subject-related issues.
- Individual action research studies were more popular among teachers than collaborative/participatory studies.
- Teachers have followed a systematic process while conducting their action research studies.
- The changes experienced by students were given prominence than the changes experienced by teachers.
- Reflective practice strengthened through action research studies positively contributed to the professional development of teachers
- There was evidence for collecting multiple data though teachers were strongly relying on one or two means when analyzing data and making conclusions of their studies.

Recommendations

- The action research project should be expanded to as many schools as possible using different means.
- Streamlining the training workshops on action research and monitoring the progress systematically at different points of the research studies are encouraged.
- More emphasis should be placed on collaborative action research as it would contribute positively towards developing a research-oriented school culture.

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RESEARCH ARTICLE
DOI: http://doi.org/10.4038/ouslj.v14i1.7460

OUSL Journal, 2019
Vol. 14, No. 01, (pp. 49-78)

Counterproductive Work Behaviour among Local Government Employees in Edo State, Nigeria

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Abstract

There is a growing concern about the pervasiveness of counterproductive work behaviours among employees in many organisations. In spite of its damaging consequences and negative impacts on organisational wellbeing, counterproductive work behaviours usually go unnoticed or unreported perhaps due to its illegal nature. This study examined the forms and level of prevalence of counterproductive work behaviours among local government employees in Edo State, Nigeria. It also ascertained the relationship between psychological contract breach and counterproductive work behaviours. A cross-sectional research design was employed, and

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(Received 10th January 2019; Revised 10thApril 2019; Accepted o6thMay 2019)

How to Cite: KADIRI, A.P. and UMEMEZIA, E., 2019. Counterproductive Work Behaviour among Local Government Employees in Edo State, Nigeria. *OUSL Journal*, 14(1), pp.51–80. DOI: http://doi.org/10.4038/ouslj.v14i1.7460

data were gathered through the use of a questionnaire which was administered on 319 sample respondents, out of which 282 questionnaires were retrieved and found usable, representing a response rate of 88.4%. The data obtained were analysed using statistical tools such as mean, standard deviation and ANOVA analysis. The results of the study revealed that the forms of counterproductive work behaviour investigated (i.e. sabotage, withdrawal, theft and abuse) are exhibited at a moderate level among local government employees. The results also indicated that psychological contract breach has a significant influence on counterproductive work behaviours that is organisational and interpersonal in nature. It was recommended that the local governments should fulfil their part of the psychological contract. The study also recommends that the local government should organise regular enlightenment programmes, and formulate appropriate HR policies that would help reduce the level of counterproductive work behaviours among employees.

Keywords: Counterproductive work behaviour, Employees, Local governments, Nigeria, Psychological contract breach

Introduction

In many organisations, it is expected that individuals exhibit a wide range of work behaviours that would impact positively on organisational well-being. Yet, this is not always the case as some employees also have the tendency to indulge in work behaviours that are inimical to organisational interest and wellbeing. This type of workplace behaviours had at various times been described using terms such as 'workplace deviance' (Robinson & Bennett, 1995), 'antisocial behaviour' (Giacalone & Greenberg, 1996), 'organisational misbehaviour' (Vardi & Weiner, 1996), and 'dysfunctional behaviour' (Griffin *et al.,* 1998). Though the terms may differ from study to study, all forms of harmful workplace behaviours are subsumed under the broader construct of 'counterproductive work behaviour' (CWB) (Czarnota-Bojarska, 2015; Spector & Fox, 2005; Dalal, 2005; Gruys & Sackett 2003; Sackett, 2002; Robinson & Bennett, 1995).

Counterproductive work behaviour (CWB) refers to intentional

workplace behaviours that deviate from established organisational norms and harm the legitimate interest of the organisation (Sackett, 2002; Vardy & Weitz, 2004). Spector & Fox (2005) perceive CWB as "volitional acts that harm organisations or people in organisations". CWB epitomises the dark side of employees' behaviour (Keskin *et al.,* 2016). Employees that engage in CWB direct such harmful behaviours at the organisation or co-workers. While organisational CWB describes employee behaviour that is targeted at harming the organisation, interpersonal CWB illustrates employee behaviour that is targeted at harming co-workers (Robinson & Bennett, 1995).

Though CWB studies have majorly been conducted along the lines of organisational CWB and interpersonal CWB, (Berry *et al.,* 2007) opine that other classifications of CWB are also useful depending on the research questions being asked. For example, Gruys & Sackett (2003) postulate eleven forms of CWB in the workplace as theft and related behaviours, destruction of property, misuse of information, unauthorised use of time and resources, unsafe behaviour, poor attendance, poor-quality work, alcohol use on the job, drug use, inappropriate verbal actions and inappropriate physical actions often exhibited by organisational members. They further grouped these forms of CWB into two broad dimensions of interpersonal-organisational and task relevance dimensions. (Spector *et al.,* 2006) collapse earlier classifications of CWB along the lines of interpersonal CWB and organisational CWB into five forms of abuse, sabotage, withdrawal, production deviance, theft and abuse. While abuse, sabotage, withdrawal, production deviance, and theft are categorised along the line of organisational CWB, abuse is listed as interpersonal CWB since it depicts "harmful and nasty behaviours" often targeted at co-workers (Spector *et al.*, 2006). In the past decades, CWB has emerged as an important area of research in the field of organisational psychology and organisational behaviour (Czarnota-Bojarska, 2015; Spector *et al.*, 2006). This emanates from its potential consequences for both the organisation and its workforce (Keskin *et al.*, 2016; Czarnota-Bojarska, 2015; Berry *et al.*, 2007; Dalal, 2005; Robinson & Bennett, 1995). CWB could result in "lost productivity, increased insurance costs, lost or damaged property, and decreased turnover" (Penney & Spector, 2005:778). Also, studies link CWB with low employee morale, job commitment, decreased citizenship behaviour,

productivity, high labour turnover (Keskin *et al.*, 2016; Roxana, 2013; Dalal, 2005).

In the last decades, successive governments in Nigeria have implemented reforms in local government administration. These reforms are geared towards facilitating both rural and urban development. However, it would appear that in spite of government efforts at repositioning the local government system for better service delivery and rapid development at the grassroots level, local governments in Nigeria have continued to be bedevilled with a plethora of problems which seems to derail its activities. These problems range from the underfunding of local government councils, poor remuneration and delay in payment of workers' salaries (Ozohu-Suleiman & Paul, 2015; Ananti & Umeifekwem, 2012). Also included, are constant political interference in local government administration, corrupt practices by local government officials, nepotism, and favouritism in the recruitment, promotion and appointment of individuals into key positions in the local government councils (Ushie & Igbaji, 2015).These problems probably accounted for the poor attitude to work often noticeable most times among the average Nigerian worker in the public/and or civil service (Osezua *et al.,* 2009).

In the local governments across the country, cases of lateness to work, acts of insubordination, buck-passing, corruption, embezzlement and/or misappropriation of government funds and dereliction of duty have been reported (Odalonu, 2015; Ananti & Umeifekwem, 2012). In a society like ours(please revise) where not much value is placed on hard work and honesty at work,(over generalization—please consider revising) there is the tendency for the Nigerian worker to resort to all manner of behaviours regardless of whether it is inimical to the overall interest of the organisation in an effort to actualise life-long aspirations. While empirical literature on CWB in the Nigeria context has largely focused on the educational sector (Uzondu *et al.,* 2017; Onyishi & Onunkwo, 2014); health sector (Ugwu, 2017; Gabriel, 2016), and maritime sector (Uche *et al.,* 2017), there is dearth of empirical studies on counterproductive work behaviours in local governments in Nigeria. This perceived gap in literature necessitated the need for this study. The objectives of this paper are two-fold. First, the paper investigates the forms and level of prevalence of

counterproductive work behaviours among local government employees. Second, the paper examines the relationship between psychological contract breach and counterproductive work behaviours among local government employees.

Review of Literature

Concept of Counterproductive Work Behaviour

Spector & Fox (2005) defined counterproductive work behaviour (CWB) as deliberate deeds that harm or are intended to harm organisations or individuals in organisations. Sackett (2002) observes that CWB is an intentional behaviour on the part of an individual that deviates from established organisational norms and harms the interest of the organisation. According to Keskin *et al.,* (2016) CWB is the premeditated endangerment of organisational outcomes and its usual functioning. According to (Raman *et al.,* 2016), CWBs are intentional or unintentional employees' behaviour that runs contrary to the aspirations of an organisation. From the aforementioned definitions, it is clear that CWB is a deliberate as against accidental act or behaviour that is intended to harm the organisation, employees and possibly customers (Griep *et al.,* 2018). It is also instructive to state that employees that engage in CWB violate established organisational norms (Griep *et al.,* 2018; Raman *et al.*, 2016; Spector & Fox, 2005). Two major targets of CWB are outlined in the extant literature; they are interpersonal CWB and organisational CWB. Interpersonal CWBs are harmful work behaviours that are targeted at co-workers and include verbal abuse of co-workers, sexual harassment, workplace bullying and gossiping of co-workers (Robinson and Bennett, 1995). Organisational CWBs are harmful workplace behaviours that are targeted at the organisation itself and include employees intentionally slowing down work, and divulging of confidential company's information to business rivals or competitors (Raman *et al.*, 2016; Robinson & Bennett, 1995).

CWB can result from numerous underlying causes and motivations. Yüksel (2012) placed the antecedents of CWB under two broad categories: individual-related factors and situational factors. Individual-related factors consist majorly of personality traits and employee's demographics. Personality traits include conscientiousness, emotional stability and agreeableness. Individual-

related factors consist of employees' job experience, marital status, age, gender and net income per month. Situational factors consist of work situations that predispose employees to engage in CWB (Henle, 2005). Situation factors include perceived injustice in the workplace, psychological contract breach, organisational constraints, work stressor, organisational culture and climate (Appelbaum *et al.,* 2007*).* Interpersonal conflicts in the workplace is another important antecedent of CWB (Keskin *et al.,* 2016). Victims of workplace conflicts are most likely to resort to CWB at perpetrators of the perceived conflict in the workplace (Keskin *et al.,* 2016).

Typology of Counterproductive Work Behaviour

As early as the 70's, Mangione & Quinn (1975) conceptualised two types of employee deviance: counterproductive work behaviour and doing little. Wheeler (1976) categorised rule-breaking behaviour into serious and non-serious crimes. Hollinger & Clark (1982) grouped deviant workplace behaviour into two categories. The first category was termed 'property deviance', while the second set of deviant workplace behaviour was termed 'production deviance'. (Hollinger *et al.,* 1992) suggested 'altruistic' property deviance as another form of deviant workplace behaviour. Robinson & Bernett (1995) opine that earlier typologies failed to provide a clear explanation of how different forms of deviant workplace behaviours are related or interrelated with each other. They also questioned the validity of earlier typologies since they were not inductively or empirically derived. Robinson & Bernett (1995) further note that earlier typology failed to capture clearly the interpersonal nature of employee deviance. Against this backdrop, Robinson & Bernett (1995) offered a typology of workplace deviance that integrated earlier typologies into a single framework using a multi-dimensional scaling system on the basis of their underlying assumptions. The resultant outcome was a typology of workplace deviance that varies along two dimensions of minor versus serious deviance, and interpersonal deviance versus organisational deviance. Minor versus serious deviance depicts the severity or degree of the deviance. The second dimension, interpersonal versus organisational deviance, reflects targets of employee deviance. Interpersonal deviance, also referred to as interpersonal CWB illustrates employee deviance that is targeted at co-workers and includes verbal abuse of a co-worker, sexual harassment and bullying behaviour (Robinson &

Bernett, 1995).

Organisational deviance also referred to as organisational CWB depicts employee behaviour that is targeted at harming the overall interest and wellbeing of the organisation and includes acts such as an employee slowing down work deliberately, and the misuse of organisational resources (Robinson & Bernett, 1995). Also, Robinson & Bernett (1995) postulated four categories of employee deviance: production deviance, property deviance, political deviance, and personal aggression. Production deviance is explained as the deliberate effort on the part of an organisational member to slow down work, or unwilling to perform a given job task as stipulated by the organisation (Welbourne & Sariol, 2016; Spector *et. al.,* 2006). Property deviance refers to the deliberate destruction of organisational property and assets (Hollinger & Clark, 1982). Political deviance describes the "engagement in social interaction that puts other individuals at a personal or political disadvantage" (Robinson & Bennett, 1995). Schat & Kelloway (2005) defined personal aggression as any "behaviour by an individual or individuals within or outside an organisation that is intended to physically or psychologically harm a worker or workers and occurs in a work-related context" (Schat & Kelloway, 2005).

Spector *et al.* (2006) postulated five forms of CWB: abuse, production deviance, sabotage, theft and withdrawal. Abuse against others refers to "harmful and nasty behaviours that affect other people" (Spector *et al.*, 2006). It includes spreading false rumours, telling lies, engaging in malicious acts against co-workers, unfair criticisms of co-workers, physical assaults against co-workers, gossiping against co-workers, teasing or humiliating co-workers (Sackett, 2002). Production deviance, on the other hand, refers to instances where organisational members purposely do their job incorrectly or engage in multiple errors (Bolton *et al.,* 2010). It is the deliberate failure on the part of an employee to perform slated responsibilities or assigned duties as expected (Robinson & Bennett, 1995). It is purposely slowing down work while reducing the quality and quantity of outputs (Spector *et al.,* 2006; Robinson & Bennett, 1995). Sabotage is the deliberate destruction of organisational property or asset. It is also closely linked to the misuse of information and the deliberate effort on the part of

an employee to tarnish the image of the organisation (Bolton *et al.,* 2010; Spector *et al.,* 2006). Theft is the unlawful acquisition of personal goods or property belonging to another person for one's self (Bolton *et al.,* 2010). Theft in the workplace can take different forms such as producing misleading records or information, stealing the organisation's properties or assets, and engaging in deceptive acts. Withdrawal is explained as avoiding work through being late or absent (Bolton *et al.,* 2010), and it includes deviant acts such as taking longer breaks than officially allowed, and intentionally reducing working hours (Spector *et al.* 2006). Withdrawal could also be in the form of workers closing earlier than officially allowed, and cultivating a habit of lateness to work.

Empirical Review

Empirical studies have examined the relationships between CWB and its antecedents. A meta-analysis of 57 empirical studies showed that interpersonal conflicts have a significant positive relationship with both organisational CWB and interpersonal CWB (Hershcovis *et al.,* 2007). Roxana (2013) focused on ascertaining the relationship between job stressor, CWB and employees' intention to quit and found that job stressor was a significant determinant of CWB. The influence of perceived high workload on CWB among nurses in Nigeria has also been examined (Ugwu, 2017). The results revealed that perceived high workload has a significant influence on CWB. Uche *et al.* (2017) ascertained employee demographics as an important predictor of CWB in Nigerian organisations. The link between organisational variables (organisational cynicism, organisational injustice and psychological contract breach) and CWB was examined by (Ahmed *et al.,* 2013). A study by Rauf (2015) concluded that organisational justice is an important predictor of CWB. This finding is similar to studies of *Nyarko et al. (*2014) and Alias & Rasdi (2015) that revealed that organisational justice is significantly associated with CWB. The role of organisational justice as a predictor of CWB was also explored by Cohen & Diamant (2017). Findings did not support the link between organisational justice and CWB. Sharma & Thakur (2016) investigated psychological contract breach as an antecedent of CWB within the context of the manufacturing industry in India and found that psychological contract breach has a significant influence on CWB that is organisational and interpersonal in nature. What this implies

is that employees that perceive that their organisation has breached the psychological contract might resort to CWB. Similarly, a study by Cohen & Diamant (2017) found that psychological contract breach has a significant positive relationship with both interpersonal and organisational CWB. (*Griep et al.* 2018) reported that employees who perceive psychological contract violation would most likely engage in CWB that is targeted at the organisation.

Theoretical Framework

The theoretical framework of this study is anchored on the social exchange theory (Blau, 1964). Social exchange theory holds that employees will discharge their contractual obligations to their organisation for as long as the other party which happens to be employers stand by the rule of the exchange (Cropanzano & Mitchell, 2005). Social exchange theory is based on the principle of reciprocity which is to suggest that the quality of the exchange of resources between the parties would predict positive or negative outcomes (Cropanzano & Mitchell, 2005). Employees who perceive that their employer has violated the terms of the contract, whether actual or psychological would most likely reciprocate by withdrawing their loyalty and job commitment and invariably resort to acts that are counterproductive in other to get back at the organisation (Cohen & Diamant, 2017).

Based on the objective of the study and a review of empirical literature, the research model as depicted in Fig. 1 shows the relationship between psychological contract breach and two targets of CWB *i.e.* the organisation and people in the organisation. While organisational CWB depicts CWB that is targeted at harming the organisation, interpersonal CWB describes CWB that is targeted at harming co-workers. From a social exchange perspective (Blau, 1964), and consistent with the norm of reciprocity (Gouldner, 1960), individuals will reciprocate unfulfilled obligations on the part of the organisation by engaging in certain actions, which might not be beneficial to the organisation. Hence, employees that perceive psychological contract breach may reciprocate by engaging in CWB.

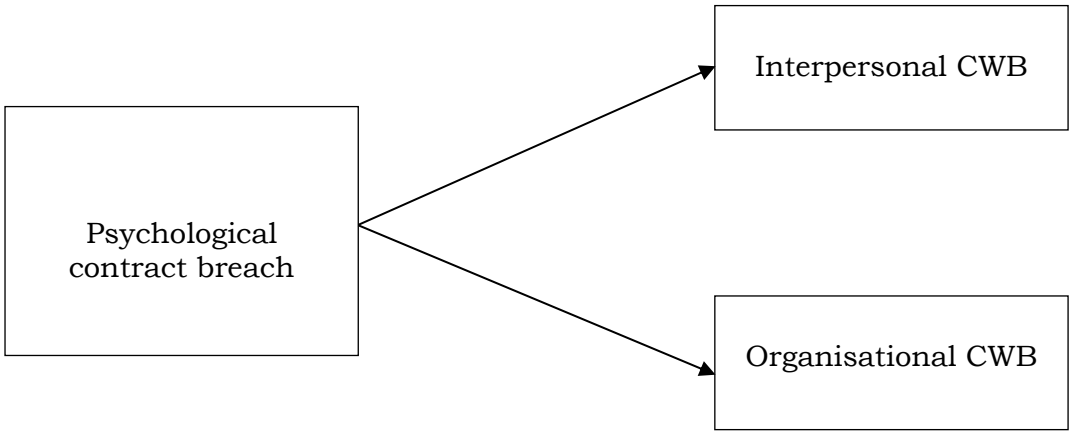

Figure1. The Research Model

Methodology

A cross-sectional research design was adopted to gather data used for this study through questionnaire administration. The cross-sectional research design was considered appropriate as it guarantees the anonymity of respondents given the illegal nature of CWB.

The population of the study comprised local government employees in Edo State. The choice of Edo State was for convenience sake. The multi-stage sampling technique was adopted for this study. Agbonifoh & Yomere (1999) posited that multi-stage sampling "involves dividing the region in which the study population is located into zones (cluster)". The researchers' might then use probability or non-probability sampling techniques to select the targeted population. This is the situation with this study where the eighteen (18) local governments (Egor, Ikpoba-Okha, Oredo, Orhionmwon, Ovia North East, Ovia South West, Uhumwonde, Akoko-Edo, Esan Central, Esan North East, Esan South East, Esan West, Etsako Central, Etsako East, Etsako West, Igueben, Owan East, Owan West) in Edo State are widely dispersed among three (3) senatorial districts. The senatorial districts are Edo South, Edo Central, and Edo North. Judgmentally, Edo South Senatorial district was selected for the study. Based on the National Population Commission (2006) report, Edo South Senatorial district has the largest population of citizens with 1,686,041 representing 52.1% of the total population of Edo State. Edo South

senatorial district comprised seven local governments of Egor local government, Ikpoba-Okha local government, Oredo local government, Orhionmwon local government, Ovia North East local government, Ovia South West local government, and Uhumwonde local government. Three local governments (Oredo Local Government, Egor Local Government, and Ikpoba Local Government) all located in Benin City were selected for this study. The choice of these local governments was on the basis of convenience and the belief that there is sufficient educational, religious, cultural, ethnic and gender diversity in the local governments. The numbers of staff in the selected local governments as obtained from Administration and General Services unit of the selected local governments are 600, 575, and 619 for Oredo Local Government, Egor Local Government, and Ikpoba Local Government respectively as at 30th March 2018. Since the population is finite, Yamane (1967) statistical formula was used in determining the sample size of the study. The equation is given as:

$$n = \frac{N}{1+N(0.05)^2} \quad (1)$$

Where: n=sample size; N= population size =1,794; e= level of precision = 0.05

$$n = \frac{1794}{1+1794(0.05)^2} = 318.87 \cong 319$$

The equation shows that the sample size is 319. Therefore, 319 copies of questionnaires were proportionally administered to respondents in the selected local governments. More specifically, 107, 102 and 110 questionnaires were administered to local government workers in Oredo Local Government, Egor Local Government, and Ikpoba Local Government respectively, using convenience sampling method. The use of convenience sampling is justified on the basis that it gives room for easy access and interaction with the respondents in the local government, thereby giving the researchers an insight into the nature of CWB in terms of its forms, and level of prevalence among employees in the local governments.

Primary data were used in this study with the aid of a structured questionnaire to elicit a response from respondents. The items in the

questionnaire were divided into three sections. The first section contains questions on respondents' gender, age, marital status, job tenure, educational qualification and net income per month. The second part of the questionnaire contains 11-items which were adapted from Spector *et al.* (2006) CWB Checklist (CWB-C). Spector *et al.* (2006) CWB Checklist (CWB-C) measure CWB along five dimensions of abuse, production deviance, sabotage, theft and withdrawal. The benefit of Spector *et al.* (2006) CWB Checklist (CWB-C) is that it affords the researcher(s) the opportunity to collapse the scale into two broad categories based on the targets of interpersonal CWB and organisational CWB. While abuse is interpersonal in nature and thus categorised as interpersonal CWB, production deviance, sabotage, theft and withdrawal are categorised as organisational CWB since these types of deviant behaviour are majorly targeted at the organisation. For this study, the Cronbach's alpha scores for the constructs of the adapted scale are 0.730, 0.712, 0.801, 0.706 and 0.804 for abuse, production deviance, sabotage, theft and withdrawal, respectively (see Appendix B for details). All the items on the CWB scale were in a five-point Likert format with 5 representing very large extent, 4 representing large extent, 3 representing not sure, 2 representing small extent, and 1 representing very small extent (see details in Appendix A). Psychological contract breach was assessed with a 5-item global measure developed by Robinson and Morrison (2000). For this study, the Cronbach's alpha score for the construct of the adapted scale is 0.714. The items in the psychological contract scale were using five-point Likert format with 5 representing the category of 'strongly agree,' 4 'agree', 3 'not sure,' 2 'disagree' and 1 representing 'strongly disagree' (see details in Appendix A).

Copies of the questionnaire were administered to respondents in Oredo Local Government, Egor Local Government, and Ikpoba Local Government, all located in Benin City, Edo State, Nigeria, with the help of trained research assistants, who also happen to be final year students of Industrial Relations and Personnel Management in the Department of Business Administration, Faculty of Management Sciences, University of Benin, Benin City, Edo State, Nigeria. The research assistants were briefed on the purpose of the study and how best to distribute and retrieve the questionnaire with a view to eliciting a positive response from respondents and invariably reduce the

number of invalid questionnaires to the barest minimum. The researchers submitted letters to the Directors of Administration and General Services requesting permission to conduct research in the local governments concerned. An introductory letter was added to the questionnaire with the intent of explaining the essence of the study while soliciting voluntary participants/respondents to fill copies of the questionnaire. The respondents were encouraged to fill out the questionnaire for immediate collection. Where it was impossible to retrieve the questionnaire immediately respondents were encouraged to fill out and submit the questionnaire within five working days. On the whole, copies of the questionnaire were distributed and retrieved from respondents within twenty-one (21) working days.

Data collected through questionnaire administration were analysed using descriptive statistics such as frequency distribution, mean, standard deviation and ANOVA analysis. The research hypothesis was tested at 0.05 level of significance. The Statistical Package for the Social Sciences (SPSS) version 24.0 was used to carry out all statistical analysis.

Empirical Analyses and Results

This section contains the description of respondents' bio-data, description of research variables and test of the research hypothesis.

Table 1. Description of Respondents' Bio-Data

Variable	Category	Frequency	%
Gender	Male	130	47.1
	Female	146	52.9
	Total	276	100.0
Age	18-25yrs	45	16.1
	26-35yrs	102	36.4
	36-45yrs	87	31.1
	46yrs and above	46	16.4
	Total	280*	100.0
Marital status	Single	104	38.0
	Married	170	62.0
	Total	274	100.0
Job Tenure	Below 5yrs	76	27.6
	5-10yrs	94	34.3

	11-15yrs	65	23.6
	16yrs and above	40	14.5
	Total	275*	100.0
Education Level	Primary School Certificate	2	0.7
	SSCE/GCE	23	8.2
	OND/NCE	52	18.6
	HND/B.SC	143	51.1
	M.Sc/M.A	39	13.9
	PhD	21	7.5
	Total	280*	100.0
Net Income per month	N10000 and Below	16	5.8
	N10001 - N50000	96	34.5
	N50001 - N100000	93	33.5
	N100001 - N150000	22	7.9
	N150001 - N200000	24	8.6
	N200001 - N250000	17	6.1
	N250001 - N300000	5	1.8
	N300001 and above	5	1.8
	Total	**278***	**100.0**

*Note: * the difference in the figure represents a missing response*

The majority of the respondents are females (n = 146, %= 52.9), while 130 (%=47.1) respondents are male respondents. The age distribution showed that majority of the respondents (n = 102, 36.4) are in the age categoy 26-35 years. Next, 87 (% = 31.1) of the respondents are aged between 36-45 years. Only 16.1% and 16.4% of the respondents are between the ages of 18-25 years and 46 years and above, respectively. Table 1 revealed that the majority of the respondents (n = 170, % = 62.0) are married, while 104 (n = 38.0%) respondents are single.

The majority of the respondents have worked for between 5-10 years. This category of respondents represents 34.3% of the total respondents. Table 1 indicates that 76 (% = 27.6) of the respondents have worked for less than 5 years. Only 65 (23.6 per cent) and 40 (14.5 per cent) of the respondents have worked for 11-15 years and 16 years and above respectively. The distribution of educational qualification shows that 143 (51.1%) of the respondents have HND/BSc Degree; 52 (18.6%) have OND/NCE, and 39 (13.9%) M.Sc/M.A degree. Only 21 (7.5%) and 2 (0.7 per cent) had a PhD and Primary School Certificate respectively. 96 (34.5%) of the respondents

earn N10001-N50000; 93 (33.5%) N50001-N100000; 24 (8.6%) of the respondents earn N150001-N200000; 22 (7.9%) of the respondents had N100001-N150000; 17 (6.1%) had N200001-N250000; and 16 (5.8%) of the respondents earn N10000 and below. Only 5 (1.8%) of the respondents earn N250001-N300000 and N300001 and above apiece.

Description of Research Variables

Forms and Level of CWB among Local Government Employees

The level of CWB was categorised according to the following mean scores: very low = less than 1.45, low = 1.45-2.44, moderate = 2.45-3.44, high = 3.45-4.44, very high = 4.45 and above. This scale was adapted from Dixon-Ogbechi *et al.* (2018). The forms of CWB investigated in this section are abuse, production deviance, sabotage, theft and withdrawal. While abuse is categorised as interpersonal CWB, production deviance, sabotage, theft and withdrawal are categorised as organisational CWB. The frequency distribution, percentages, the mean and standard deviation for the different variables are revealed in Table 2.

Table 2. CWB among Local Government Employees in Edo State

S/n	Items	VLE	LE	ME	SE	VSE	Mean
	Sabotage						
1	To what extent do employees deliberately waste office materials or supplies?	20(7.1%) 65(23.1%)	45 (16%)	62 (22%)	111(39.4%) 155(55.1%)	44(15.7%)	2.60
2	To what extent do employees deliberately litter the work environment?	14(5%) 55(19.6%)	41 (14.6%)	38 (13.5%)	130(46.1%) 189(67.1%)	59(21%)	2.37
	Overall Mean for Sabotage						***2.48***
	Withdrawal						
3	To what extent do employees deliberately come late to work without permission?	29(10.3%) 89(31.6%)	60 (21.3%)	48 (17.1%)	76(27%) 145(51.5%)	69(24.5%)	2.66
4	To what extent do employees deliberately take a longer break than they are officially allowed?	22(7.9%) 68(24.3%)	46 (16.4%)	65 (23.1%)	84(29.8%) 149 (52.9%)	65 (23.1%)	2.56
5	To what extent do employees deliberately leave their place of work than they are expected to?	16(5.7%) 71 (25.3%)	55 (19.6%)	50(17.8 %)	86(30.5%) 161(57.1%)	75(26.6%)	2.47
	Overall Mean for Withdrawal						***2.56***
	Production Deviance						
6	To what extent do employees deliberately fail to follow laid down procedures/instructions?	12(4.3%) 49(17.5%)	37(13.2 %)	72(25.6 %)	81(28.8%) 161(57.2%)	80(28.4%)	2.36
7	To what extent do employees deliberately slow things down when work needed to be done quickly?	17 (6.1%) 61(21.8%)	44 (15.7%)	69(24.5 %)	84(29.8%) 152(54%)	68(24.2%)	2.50
	Overall mean for production deviance						***2.43***
	Theft						
8	To what extent do employees deliberately take office supplies or tools home without permission?	10(3.6%) 48(17.1%)	38(13.5 %)	97(34.4 %)	83(29.5%) 137(48.7%)	54(19.2%)	2.53
9	To what extent are cases of theft or deliberate vandalism of government properties widespread in the local government?	18(6.4%) 60(21.3%)	42 (14.9%)	93 (33%)	65(23.1%) 129(45.8%)	64(22.7%)	2.59
	Overall mean for theft						***2.56***
	Abuse						
10		17(6.1%)	47(16.7 %)	94(33.4 %)	71(25.2%)	53(18.8%)	2.66

S/n	Items	VLE	LE	ME	SE	VSE	Mean
	To what extent do employees deliberately engage in or continue a harmful rumour at work?	64(22.8%)			124(44%)		
11	To what extent do employees engage in verbal abuse of other employees?	13(4.7%) 39(14%)	26(9.3%)	95(33.7%)	80(28.4%) 148(52.6%)	68(24.2%)	2.42
	Overall mean for abuse						***2.54***

Note: VLE- Very Large Extent, LE- Large Extent, ME- Moderate Extent, SE- Small Extent, VSE- Very Small Extent

Sabotage

Over 19.6% of the total respondents said that to a large extent, office materials or supplies were deliberately wasted and the local government environment was deliberately littered by employees, as compared to over 55.1% of the respondents who thought that the extent to which these items were present in the local governments was small (consider : minimal). Generally, the extent to which employees deliberately waste office materials or supplies (Mean = 2.60) was moderate, while the extent to which employees deliberately litter the work environment (Mean = 2.37) was low. The results clearly indicate that the extent of sabotage in the local governments is moderate with a mean score of 2.48.

Withdrawal

Over 24.3% of the total respondents stated that employees deliberately come late to work without permission to a large extent, took longer breaks than they were officially allowed, left their place of work than they were expected(please revise: idea not clear) as compared to over 51.5% of the total respondents who held views to the contrary. Generally, all the items under withdrawal which included the extent to which employees deliberately come late to work without permission (Mean = 2.66), the extent to which employees deliberately took longer break than they were officially allowed (Mean = 2.56), and the extent to which employees deliberately left their place of work than they are expected to(did they violate their allotted hours of work by “leaving the work place early”?) (Mean = 2.47) is moderate. Overall, the extent of withdrawal in the local governments studied was moderate with a mean score of 2.56.

Production Deviance

Over 17.5% of the total respondents said that the extent to which employees deliberately failed to follow laid down procedures/instructions and slowed things down when work needed to be done quickly was large, as compared to over 54% of the total respondents who held a contrary opinion. Generally, the extent to which employees deliberately fail to follow laid down procedures/instructions (Mean = 2.36) appeared to be low, while the extent to which employees deliberately slowed things down when work needed to be done quickly (Mean = 2.50) was moderate. From Table 2, the extent to which respondents engaged in production deviance was low with a mean score of 2.43.

Theft

Over 17.1% of the total respondents said that the extent to which colleagues deliberately took office supplies or tools home without permission and cases of theft or deliberate vandalism of government properties was large, as compared to over 45.8% who thought otherwise. Generally, the extent to which employees deliberately took office supplies or tools home without permission (Mean = 2.53), and the extent to which cases of theft or deliberate vandalism of government properties (Mean = 2.59) was moderate. Overall, the extent of theft in the local governments studied was moderate with a mean score of 2.56.

Abuse

Over 14% of the total respondents were of the view that the extent to which colleagues deliberately engaged in or spread a harmful rumour at work and verbally abused other co-workers was large as compared to over 44% of the respondents who thought otherwise. The extent to which employees deliberately engaged in or spread a harmful rumour at work was moderate (Mean = 2.66), while the extent to which employees engaged in verbal abuse of other employees was low (Mean = 2.42).The results in Table 2 shows that the extent to which respondents engaged in abuse with a mean score of 2.54.

Perception of Psychological Contract Breach among Local Governments Employees

Table 3. Perception of Psychological Contract Breach among Local Governments Employees

S/N	Statement	D(SD)	U	A(SA)	Mean
1	Almost all promises made by my employer during the recruitment process have been kept so far	123 (43.7%)	78 (27.7%)	81 (28.9%)	3.28
2	I feel that my employer has come through in fulfilling the promises made to me when I was hired	131(46.5%)	71 (25.2%)	80 (28.5%)	3.35
3	So far, my employer has done an excellent job of fulfilling its promises to me	118(42.0%)	76 (27%)	88 (31.3%)	3.19
4	I have not received everything promised to me in exchange for my contributions to my local governments	82(29.1%)	87 (30.9%)	113 (40.2%)	2.89
5	My employer has broken many of its promises to me though I've upheld my side of the deal	82(29.1%)	56 (19.9%)	144 (51.1%)	2.76
	Overall Mean For Psychological Contract Breach				**3.09**

Note: SD- Strongly Disagree, A-Agree, U-Unsure, A-Agree, SA- Strongly Agree

We observed from Table 3 that over 43.7% of the respondents disagreed with the statement that 'almost all promises made by my employer during the recruitment process have been kept so far'. Also, over 46.5% of the respondents disagreed with the statement 'I feel that my employer has come through in fulfilling the promises made to me when I was hired'. Over 42.0% of the respondents disagreed with the statement that 'so far, my employer has done an excellent job of fulfilling his promises to me'.

The results in Table 3 indicate that over 40.2% of the respondents agreed with the statement that 'I have not received everything promised to me in exchange for my contributions to my local government' and over 51.1% agreed with the statement that 'my employer has broken many of its promises to me though I have upheld my side of the deal. The overall mean for psychological contract breach is 3.09 which could be considred moderate.

Test of Research Hypothesis

The following hypothesis was formulated to guide this study:

H1: Psychological contract breach does not influence organisational CWB and interpersonal CWB.

Table 4. ANONA Results for Psychological Contract Breach and CWB

Construct		Sum of Squares	Df	Mean Square	F	Sig.
CWB-I	Between Groups	35.679	20	1.784	2.295	0.002*
	Within Groups	202.892	261	0.777		
	Total	238.571	281			
CWB-O	Between Groups	19.047	20	0.952	1.693	0.035*
	Within Groups	146.848	261	0.563		
	Total	165.895	281			

Note: CWB - Counterproductive Work Behaviour, CWB-I: Interpersonal CWB, CWB-O: Organisational CWB

The results in Table 4 revealed that psychological contract breach has a significant influence on interpersonal CWB ($F = 2.295$, $p<0.05$). Similarly, psychological contract breach has a significant influence on organisational CWB ($F = 1.693$, $p<0.05$); thus, H1 is rejected.

Findings and Discussion

The objective of this study was to examine the level and forms of CWB exhibited by local government employees in Edo state, Nigeria. The study also ascertained if psychological contract breach has any significant relationship with CWB. CWB was measured in terms of five dimensions as postulated by Spector *et al.* (2006). These dimensions are: abuse, production deviance, sabotage, theft and withdrawal. While production deviance, sabotage, theft and withdrawal are categorised along the line of organisational CWB since they are primarily targeted at harming the organisation, while abuse is listed as interpersonal CWB as it is aimed at harming co-workers.

With respect to the first objective of the study which aimed at examining the level and forms of CWB exhibited by local government employees, the study found that respondents engaged in different forms of CWB, albeit moderately. More specifically, the study found that sabotage, withdrawal, theft and abuse were exhibited at a

moderate level. Production deviance was exhibited at a low level. This finding is quite surprising when we take into account various forms of CWB which have been reported across various local councils in the country. These ranged from rampant cases of absenteeism from work, habitual lateness to work, buck-passing to bribery (Odalonu, 2015). Several factors have been identified to be responsible for the poor attitude of local government workers to work. Some of the factors include shortage of skilled manpower, politicisation and lopsided nature of the recruitment process (Ananti & Umeifekwem, 2012), gross underfunding of local government councils, poor working conditions, unavailability of facilities needed for optimum job performance, and limited opportunities available for career progression (Ozohu-Suleiman & Paul, 2015).

As for the second objective of the study which aimed at ascertaining if psychological contract breach has any significant relationship with CWB, the study revealed that psychological contract breach is a significant determinant of both organisational CWB and interpersonal CWB in the local governments in Nigeria. This is consistent with findings of Cohen & Diamant (2017), Sharma & Thakur (2016) who found that psychological contract breached correlates significantly with CWB. The findings also confirm studies of Ahmed *et al.* (2013), Onyishi & Onunkwo (2014) which found that psychological contract breach was a significant determinant of CWB among employees.

Conclusions

This study reveals a number of practical implications for local government administration in Nigeria. For instance, since the findings of this study revealed the presence of CWB in the local governments albeit moderately, it is recommended that that measures should be put in place to curtail this phenomenon in the workplace. This could be done with the formulation of appropriate HR policies to help curtail this menace in the workplace. HRM policies could be formulated in the area of selection and recruitment, training, and compensation. It is also recommended that enlightenment programmes should be organised with a view to drawing the attention of employees to the detrimental consequences and negative impact of CWB on the wellbeing and interest of the organisation. Since the results of the

study show that psychological contract breach has a significant impact on employee predisposition to engage in CWB, it is recommended that local governments in Nigeria should also make efforts to fulfil psychological contract entered into with employees. Efforts should be made to pay workers' salaries as at when due, promotion of qualified employees should not be denied or delayed unnecessary and local government workers should be adequately trained for the job at regular intervals.

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Appendix A. Research Questionnaire

Section A

1. Gender: Male [ ] Female [ ]
2. Age: 18-25yrs [ ] 26-35yrs [ ] 36-45yrs [ ] 46yrs and above [ ]
3. Marital Status: Single [ ] Married [ ]
4. Job Tenure: Below 5yrs [ ] 5-10yrs [ ] 11yrs-15yrs [ ] 16yrs and above [ ]
5. Highest Educational Qualification: Primary School Certificate [ ] SSCE/GCE [ ] OND/NCE [ ] HND/B.SC [ ] M.Sc/M.A [ ] Ph.D [ ] Others [ ]
6. Net Income per Month: N10,000 and below [ ] N10,001-N50,000 [ ] N50,001-N100,000 [ ] N 100,001-N150,000 [ ] N150,001-N200,000 [ ] N200,001-N250,000 [ ] N 250,001-N300,000 [ ] N300,001 and above [ ]

Section B

INSTRUCTION: Please indicate as frankly as possible your opinion on the following statements. The options for each item are Very Large Extent (VLE), Large Extent (LE), Moderate Extent (ME), Small Extent (SE), Very Small Extent (VSE).

Counterproductive Work Behaviour (Spector et al., 2006)

SAB1: To what extent do employees deliberately waste office materials or supplies?

SAB2: To what extent do employees deliberately litter the work environment?

WIT3: To what extent do employees deliberately come late to work without permission?

WIT4: To what extent do employees deliberately take a longer break than they are officially allowed?

WIT5: To what extent do employees deliberately take a longer break than they are officially allowed?

WIT6: To what extent do employees deliberately leave their place of work than they are expected to?

PRO7: To what extent do employees deliberately fail to follow laid down procedures/instructions?

PRO8: To what extent do employees deliberately slow things down when work needed to be done quickly?

THE9: To what extent do employees deliberately take office supplies or tools home without permission?

THE10: To what extent are cases of theft or deliberate vandalism of government properties widespread in the local government?

ABU11: To what extent do employees deliberately engage in or continue a harmful rumour at work?
ABU12: To what extent do employees engage in verbal abuse of other employees?

Section C

INSTRUCTION: Please indicate as frankly as possible the extent to which you agree with the following statements. The options for each item are: Strongly Agree (SA), Agree (A), Not Sure (NS), Disagree (D), Strongly Disagree (SD).

Psychological contract breach (Robinson & Morrison, 2000)

PCB1: Almost all promises made by my employer during the recruitment process have been kept so far.

PCB2: I feel that my employer has come through in fulfilling the promises made to me when I was hired.

PCB3: So far, my employer has done an excellent job of fulfilling its promises to me

PCB4: I have not received everything promised to me in exchange for my contributions to my local government.

PCB5: My employer has broken many of its promises to me though I've upheld my side of the deal.*Note: (1) The items under each construct were adapted from the sources indicated*

(2) The items used for data analyses showed internal consistency as revealed by Cronbach's Alpha reliability test.

Appendix B: Reliability scores of study variables

S/N	Constructs	Sub-Constructs	Measurement	Origin of the Construct	Cronbach's Alpha Value
1	Counterproductive Work Behaviour (CWB)	Sabotage	2-items scale	Spector *et al.* (2006)	0.801
		Withdrawal	3-items scale	Spector *et al.* (2006)	0.804
		Production Deviance	2-items scale	Spector *et al.* (2006)	0.712
		Theft	2-items scale	Spector *et al.* (2006)	0.706
		Abuse	2-items scale	Spector *et al.* (2006)	0.730
2	Psychological Contract Breach	Psychological Contract Breach	5-items scale	Robinson and Morrison (2000)	0.714

RESEARCH ARTICLE
DOI: http://doi.org/10.4038/ouslj.v14i1.7447

OUSL Journal, 2019
Vol. 14, No. 01, (pp. 79-100)

The Complexity and Fear of Teaching the "Other": The Role of Teachers in a Larger Process of Social Cohesion and Peace

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Abstract

Based on a narrative case study conducted in two in-service teacher preparation programs for English language teachers in Sri Lanka, this paper explores the role of English language teachers in promoting social cohesion and peace. Set against Sri Lanka's National Policy on Social Cohesion and Peace (2008), which recognizes teacher agency and teacher education in actively working towards bridging the estranged Sri Lankan communities, this paper critically analyzes what it takes for teacher education to prepare prospective teachers to be cultural brokers who are willing and able take an active role in promoting social cohesion and peace. The paper argues that national and program level policies and curricula changes are insufficient if micro

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(Received 24th April 2019; Revised 14th May 2019; Accepted 17th May 2019)

How to Cite: Herath, S.M., 2019. The Complexity and Fear of Teaching the "Other": The Role of Teachers in a Larger Process of Social Cohesion and Peace. *OUSL Journal*, 14(1), pp.81–102.
DOI: http://doi.org/10.4038/ouslj.v14i1.7447

level and more personal efforts are not made to assist new teachers to develop more inclusive mindsets.
Conceptually this paper is grounded on transformative approaches to pedagogy that highlight the agency of teachers and the need for teacher preparation programs to support new teachers to shape and craft their emergent transformative practices. Such approaches to teacher education identify teachers as transformative intellectuals whose role is recognized as being in tune with their social, political and historical realities. This perspective aligns with an approach in which the teacher's role extends beyond the mere transmission of knowledge and skills in the classroom to a broader, more inclusive vision of the whole socio-educational process.

The paper argues how national policies, curricula interventions, and the creation of a multicultural teacher community by diversifying the pool of prospective teachers to provide greater opportunities for inter-cultural interactions are insufficient if personal efforts are not made by teacher education programs and teacher educators to ensure that the program provides prospective teachers the theoretical lenses to make sense of their experiences with those who are different from them. Instead, mere cultural immersion lacking active measures that provide teachers with attitudes and skills to embrace diversity, results in the recreation of the existing status quo and promoting further mis-trust among communities.

Keywords*:* language teacher education, language teachers, social co-hesion, peace, transformative pedagogies

Introduction

The relationship between educational systems and conflict often poses a conundrum. It is a complex and multidirectional relationship. That is because education systems, more so than other social systems, have a unique and crucial role to play in rebuilding or shattering fur-ther the communities that were in conflict. This paper focuses on the education of pre-service English language teachers and whether the preparation of teachers lends itself positively to the larger processes of social cohesion and peace implemented being in Sri Lanka. By tap-

ping into to data 'generated' (Mason, 2015) through life history narratives of culturally and linguistically diverse pre-service English language teachers in two teachers' colleges located in the Western and Central provinces of Sri Lanka, the study explores who English language teachers are, their experiences in the program and how these experiences shape their perceptions of other communities. Conceptually grounded in transformative pedagogies, the paper looks at teacher agency and the teachers' role in crafting transformative practices that extend teaching beyond preparing students for exams.

Review of literature

The literature reviewed for this paper is drawn from two larger areas in education: Education for social cohesion and peace, and policies that were aimed and geared towards promoting sustainable peace. They lend themselves towards the study by providing a deeper and more nuanced understanding of how educational policies and structures play a role in promoting or curtailing peace and helping educators to develop more inclusive mindsets.

Education, social cohesion and peace

The assumption that education is regarded as a panacea for a broad spectrum of social ills is based on the premise that formal education can shape the understandings, attitudes and, ultimately, the behavior of individuals. However, it must be noted that such shaping can produce negative or even harmful effects. Education can, in fact, exacerbate ethnic hostilities and tensions through uneven access to education, the use of education as a cultural weapon, the manipulation of history, curriculum and textbooks for political purposes, and the segregation of education to ensure inequality and stereotyping. Thus, as a socially constructed phenomenon, education can have a destructive impact on intergroup relations (Bush & Saltarelli, 2000). Schools can also be complicit in conflict by reproducing skills, values, attitudes, and social relations of the dominant group in society, reproducing the existing status quo and perpetuating particular versions of history (Buckland, 2005; Christie & Collins, 1984; Herath; 2013, Kallaway, 1984). Moreover, there is the potential risk of educators becoming pawns of political powers (Vongalis-Macrow, 2007) and of education

reinforcing the wider social and political structures that are a part of the conflict (Davies, 2010).

The other side of this argument views education as a critical player in reconciliation which has the potential of reducing the risk of relapsing into conflict. The understanding is that a solid education system can help build stronger resilience against conflict and a solid foundation for post-conflict reconciliation (Bush & Saltarelli, 2000; Minow, 1998; O'Malley, 2010; Parmar *et al., 2010*; Paulson, 2011a, 2011b, 2011c; Smith & Vaux, 2003; Vargas-Baron & Alarcon, 2005), and that it has the power to shape the understandings, attitudes, dispositions and behaviors of individuals. Education can provide opportunities to dampen the impact of the conflict, nurture and sustain an ethnically tolerant climate, desegregate minds, foster linguistic tolerance, cultivate inclusive citizenship, and disarm history. Therefore, in post-conflict times, education can be utilized to make a socially constructive impact on intergroup relations in post-conflict situations (Bush & Saltarelli, 2000). This understanding of education extends to the education and the preparation teachers as well. In a discussion about the importance of teachers being well equipped to address issues pertaining to diversity, Jim Cummins (1997) argues that teacher education programs can discriminate systemically against diverse students when teachers are ill-equipped to teach.

The consequences of discrimination in Sri Lanka, the inability of the two major ethnic communities, the Sinhalese and the Tamil, to communicate, and their subsequent polarization and estrangement resulted in a war that affected every aspect of social life and stunted the country's development and economic growth for decades have been depicted as negative features of the Sri Lankan education system which have contributed to fuelling ethnic tensions in the country (MoE, 2006; Lopes Cardozo, 2008; Bush & Saltarelli, 2000; Colenso, 2005). Ethnically segregated education in Sri Lanka, for instance, which educates children from different ethnic and religious groups separately, has led to limited interethnic interaction and tolerance (Lopes Cardozo, 2008).

Against such a backdrop, teacher education programs have a special role to play in preparing prospective teachers who are willing and able to bring estranged ethnic communities together. In the aftermath of a

war, teachers who are well equipped to meet the needs of diverse learners can function as cultural brokers or ambassadors. Unlike other teachers who teach various subjects in first languages, English language teachers are uniquely positioned as teachers of the "Link Language". They are not compelled to teach in schools in their own first languages but can teach in schools where other languages are the medium of instruction.

Social cohesion and policy in Sri Lanka

A vision to unite and reconcile local communities was presented in Sri Lanka's National Goals of Education in the First Report of the National Education Commission in 1992. Some of the clauses that pertain to building unity, equality, social cohesion and peace are as follows:

1. Nation building and the establishment of a Sri Lankan identity through the promotion of national cohesion, national integrity, national unity, harmony, and peace, and recognizing cultural diversity in Sri Lanka's plural society within a concept of respect for human dignity.

2. Creating and supporting an environment imbued with the norms of social justice and a democratic way of life that promotes respect for human rights, awareness of duties and obligations, and a deep and abiding concern for one another.

3. Fostering attitudes and skills that will contribute to securing an honorable place in the international community, based on justice, equality and mutual respect.

4. Active partnership in Nation Building activities should ensure the nurturing of a continuous sense of deep and abiding concern for one another. (National Education Commission, 2003).

These 1992 National Goals of Education were followed by the propositions of the General Education Reforms of 1997, which put a greater emphasis on pre-service and in-service teacher education in promoting social cohesion. Some areas that were promoted through teacher education reforms included promoting social cohesion and peace, hu-

man values, human rights, national cohesion, and democratic principles. Moreover, Sri Lankan teachers were expected to develop skills of empathetic listening and democratic leadership, while developing children's self-esteem and conflict resolution skills through role plays (Social Cohesion and Peace Education Unit, 2008).

Reforms in 1997 stipulated the creation of the Social Cohesion and Peace Education Unit (SCPEU) within the Ministry of Education. This development reflects the importance given to education in achieving national goals toward peace. It also highlights the Sri Lankan government's recognition of the need to centralize the various initiatives that are geared toward peace. The SCPEU's mandate is to provide stronger assistance and guidance to the education sector in implementing peace education initiatives in schools.

Then, in 2003, the National Policy Framework on General Education in Sri Lanka (National Education Commission, 2003) also included clauses pertaining to peace and social cohesion. This document was followed by the Education Sector Development Framework and Programme of 2006 which includes four themes. Theme 2, Improving Education Quality, focuses on promoting values, ethics, civic consciousness and social cohesion in schools. Against a backdrop of segregated education, it recognizes the role of teachers as mediators who act as models for non-violence, democracy and the promotion of rights, and who actively engage in peace building (Ministry of Education, 2006).

In 2008, the National Policy and Comprehensive Framework of Actions on Social Cohesion and Peace Education (SCPE) was presented by the Education and Social Cohesion Unit of the Ministry of Education of Sri Lanka. This policy intervention stemmed from the perceived need among government to implement a coherent and well-coordinated peace education initiative. The policy is centered in the Social Cohesion and Peace Education Unit (SCPEU) of the Ministry of Education. The SCPE initiative identified seven strategic areas and activities that needed to be introduced to the entire education system. One of the seven strategic areas include teacher education. A review of this policy in 2016 found that schools viewed social cohesion as a mere celebration of other cultures and opposed to developing a deeper understanding of other cultures (Davies *et al.,* 2016).

What is evident from the review of policy on social cohesion and peace is that consecutive governments have recognized the role of education in peace building and more importantly the role of teachers and teacher education. However, to what extent these policies are a reality is tied to how they have trickled down to teacher education and classroom practitioners.

Theoretical framework: Transformative pedagogies

The theoretical basis for this paper is grounded in transformative pedagogies. Transformative pedagogies can be better understood when it is framed within orientations to pedagogy. Cummins (2009, 2004; Skourtou *et al.*, 2006; Cummins *et al.*, 2011) presents three broad orientations to pedagogy: transmission, social constructivist, and transformative. As depicted in Figure 1, in this formulation, the three pedagogies are nested within each other in such a way that they are understood as interconnected and codependent rather than isolated from one another.

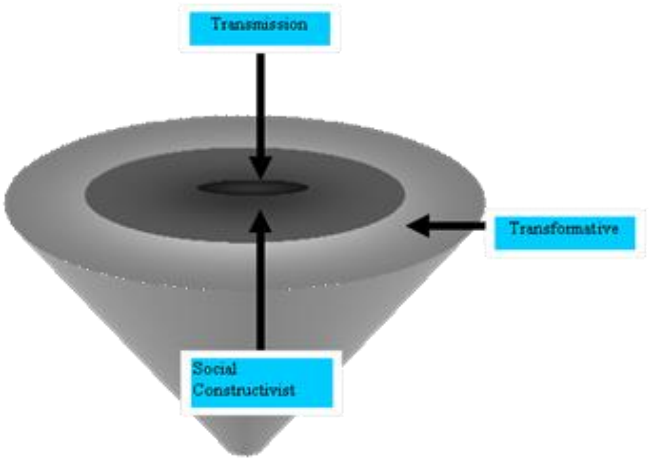

Figure 1. Nested pedagogical orientations (Cummins, 2009)

Transmission-oriented pedagogy, located at the center of the nest and occupying a small space, has the narrowest focus. Its aim is to transmit information and skills directly to students. This is similar to what Freire (1970) calls "the banking model" of pedagogy (i.e., teachers simply "deposit" knowledge into their students' "empty" minds as one would deposit money into a bank account). Exclusive reliance on a transmission approach, Cummins (2009) argues, would promote memorization rather than deep and active learning. Social constructivist pedagogy, occupying a broader pedagogical space in Cummins' nest, is located between transmission and transformative pedagogies. While acknowledging the importance of transmitting knowledge, constructivist pedagogy additionally focuses on "the development of higher order thinking abilities as teachers and students co-construct knowledge and understanding" (Cummins, 2009, p. 5). In this orientation, there is a focus on experiential learning, collaborative inquiry, and knowledge building.

Finally, the transformative approach to pedagogy is located in the outermost layer of the pedagogical nest, broadening the educational focus even further. It highlights the importance not only of transmitting the curriculum and constructing knowledge, but additionally, and most importantly, of enabling students to "gain insights into how knowledge intersects with power" (Cummins, 2009, p. 6). In practice, students engage with materials and undertake discussions with the purpose of identifying the types of social action they can take to change their own and others' social realities. Transformative pedagogy is attentive specially to issues of equity and justice; thus, it enables students to challenge existing power relations in society. For teachers to be transformative intellectuals, teacher education needs to have a greater emphasis on transformative orientations to pedagogy.

Methodology

This paper presents a segment of data from a much larger longitudinal study that looks at the role of language teachers in the larger processes of nation building in a post conflict situation. This paper draws on data from two residential teacher preparation programs for English

language teachers offered at the National Colleges of Education in Sri Lanka (NCOE) in the Western and Central† provinces of Sri Lanka.

There are seventeen NCOE located in different provinces of the country and each college offers several subject areas of specialization in Sinhala, Tamil and English mediums. During the first two years of the program, the teacher candidates (TCs) reside in a college and take a range of courses. This provides for most of them their first experience of living and working with people from other sociocultural backgrounds. Moreover, the NCOEs have a strong extracurricular component, where the TCs organize events that take place in Sri Lankan schools (such as sports days, English days, drama competitions) as well as cultural and religious festivals celebrated by the larger Sri Lankan community. During the final year, the TCs do a one-year internship in a local school.

The participants of the study consisted of final year TCs who were in the process of completing their one-year internship in schools where they were assigned the regular responsibilities of teachers. To ensure anonymity and confidentiality, all participants were given pseudonyms. To simplify the identification of which college the TCs were from (i.e., Central or Western College), TCs from the Central College (CC) were given names beginning with the letter "C" and those from the Western College (WC) were given names beginning with "W". As there were female and male TCs from different ethnic and religious backgrounds, they were given pseudonyms that reflected their social and cultural identities.

The use of narrative inquiry provided rich data that cannot be gathered from other forms of data collection such as questionnaires, experiments, or observations. Moreover, the uniqueness of one's own personal narrative as a researcher and that of each of the participants in a study manifests rich data. Polkinghorne (1988) claims that narrative is the "primary form by which human experience is made meaningful" (p.1). Clandinin & Connelly (1994) reiterate that, "stories are the closest we can come to experience as we and others tell of our

†Here after these two research sites will be referred to as Central College (CC) and Western College (WC).

experience" (p. 415). Participants' narratives give rich insights into their own experiences that researchers are not able to get at otherwise.

Findings

The findings of the study focus on teacher identity and who prospective Sri Lankan English language teachers are; the efforts the programs make to foster cultural awareness among its candidates; their experiences within the residential program; and how the teacher candidates report having changed as a result of these initiatives.

The NCOEs and their teacher candidates (TCs)

Research on reconciliation and social cohesion initiatives in education highlights the need for "diversity sensitive recruitment and deployment policies" (Smith, 2005) that ensures the adequate recruitment of teachers from different ethnic and linguistic groups. Social justice teacher education calls for the recruitment of a diverse teaching force if teacher education is to bring about broad-scale social change (Zeichner, 2011). Both WC and CC were multicultural and programs were offered in all three languages. There were TCs from diverse sociocultural backgrounds and they came from different parts of the country.

However, a common theme that underlined the narratives of TCs from both colleges was the segregated nature of their upbringing. Many of the TCs had grown up in geographical and social settings that provided them with little exposure to other cultures. Irrespective of where they had grown up, they had not had exposure to other ethnic and linguistic communities. The following excerpts shed light on the nature of their experiences,

> My primary school was a Sinhala Buddhist school in my village. Then I went to another Sinhalese Buddhist middle/high school. All the students were lower middle-class or poor. I knew only Sinhala people. (Camal)

> My town is a Muslim town in the East. We are all Muslim. Life was different there. It was a different culture. I never met people from other communities before I came to college. (Waseem)

There were, however, minority Tamil and Muslim TCs who had had a greater degree of exposure to other communities.

> In my old school, there were only Tamils and Muslims. There were no Sinhalese. But my hometown, Badulla, is a multicultural city. Growing up, I knew lots of Sinhalese, Tamils, Muslims and Christians. We had friends who visited us. I can speak all languages. (Withya)

Nevertheless, such students were a minority. As a result, for many TCs, the teachers' college was their first exposure to multicultural diversity in Sri Lanka. Most of the TCs had grown up in homogenous communities.

Moreover, there were TCs like Waseem who had firsthand experiences of war:

> My father is dead. He was a farmer. He was killed in 1990. The LTTE shot him and his three brothers when they were working in the field. This happened three days after my younger brother was born. I was two years old. I have four brothers and one sister, and my mother struggled to raise us. My mother is a housewife. She still cries when she talks about how she raised us. (Waseem)

On the one hand, the TCs' narratives presented nuances and rich data that highlight the segregated nature of their upbringing, on the other hand, they showcased a range of diverse experiences of growing up amidst a war. Collectively, these lived experiences can be rich resources to learn about others which the program should exploit in order to promote greater awareness of lived experiences of those from other communities. Yet the narratives of the participants reveal that personal lives, experiences and sociocultural backgrounds were never discussed or analyzed to gain a better understanding of the larger social fabric the teachers lived and worked in.

Experiences in the program

The two-year residency forced the TCs to meet people from other communities and to coexist, collaborate and learn about them. It is argued that coexistence has the potential to overcome the negative impact of

segregation. It can help in overcoming the limited interethnic interactions and intolerance that is perpetuated in segregated primary and secondary education (Lopes Cardozo, 2008).

While many TCs complained about the rigor of the routine, they also spoke of the many advantages their residential training brought. Among these advantages was the fact that, for many, their college experience provided them with their first exposure to Sri Lankan multicultural diversity.

> It was very helpful for us to be with different people. We always chatted. We learned a lot about their backgrounds, customs and many things we didn't know. I will always value that experience. (Camal)

> We got to meet people from different ethnic and religious groups. I grew up in the East and I didn't know Sinhalese people before. I had only seen them on TV. But in college we got involved with them. We also celebrated all Sri Lankan religious and cultural events. (Cala)

Integrated education such as the one offered in the NCOE is recognized as an effective means to reconcile previously conflicting communities. Providing more opportunities for intergroup contact (Donnelly and Hughes, 2009) that foster coexistence (Sampson, 2003) and encourage dialogue (Tully, 2004) can help estranged communities reconcile. Getting to know people from different social and cultural groups and receiving knowledge about them can lead toward improved attitudes (Johnson & Stewart, 2007).

The TCs also celebrated all local, cultural and religious festivals in the NCOE. The celebration of cultural events made TCs learn about other cultures outside of the formal curriculum. Yet, the mere celebration of other cultures as opposed to developing a deeper understanding of other cultures (Davies *et al.*, 2016) did not assist in developing a deeper and more sustainable understanding of other communities that were tied to stronger principals of respect and empathy.

Camal and William spoke about the novelty of entering the teachers' college. Every aspect of life in the college, ranging from the subjects

the TCs had to study, to the environment they had to live in, to interacting with their lecturers was a new experience.

> It was a new experience. We come from a Sinhalese society, so when we come to the college, it's a novel experience for us. We had to talk in English. But with time, we learned what we should do. I learned a lot about other cultures and festivals. These are things I had seen on TV, but in college, I got to take part in them. (Camal)

> Living in the community was good. We celebrated Sinhalese and Tamil New Year, Ramadan, Thai Pongal, Christmas and many more festivals. Even when other religious festivals are celebrated, we join in and help. Before that I didn't know what Thai Pongal was or what food they make. I think we need the two residential years to learn all that.... Then we also met different people. In the beginning, it was difficult to remember those names. We were not used to Muslim names like Sijaam, Aashik, and Abdul. It was different for us. They also didn't know how to pronounce our names. When they did, it was funny. They were my first Muslim friends. Before going to the college, I didn't know Muslims went to the mosque on Fridays and prayed five times a day. It was interesting to learn about them. We were together for two years. They didn't know Sinhala and we didn't know Tamil. So, we spoke in English. It was hard, but we improved our English....Now, I know a lot about other cultures. I think now I can adapt to any school environment. I have the ability to accept others and adjust. (William)

Living with others different ethnicities provided a new exposure to all TCs. They got to know TCs from other cultures and experienced their festivals. It was more or less an exotic experience for them.

Although the TCs are made to coexist for two years, the formal curriculum does not explicitly address issues of diversity and the values of learning from other cultures. It is important for educational reform in post-conflict nations to construct new curricula with a broader understanding of what it means to be a nation state. It also needs to focus on the skills teachers need to have in order to create more inclusive learning environments (Shah, 2012). Merely throwing people

together and expecting them to learn from each other without any explicitly knowledge conceptual lenses can prove to be counterproductive. They are not provided conceptual lenses to deconstruct and understand their experiences. Courses in human rights education, citizenship education, intercultural and peace education have the potential to foster social cohesion (Smith 2005), however, these are not taught in the NCOE. Nor does the existing curriculum attempt to raise students' critical awareness and their role beyond that of transmitting the curriculum. Although the Sociology of Education curriculum includes topics such as "Diversity of sociocultural background" and examines the factors that contribute to sociocultural diversity such as social class/sub classes, ethnicity, religion locality (urban/rural) and their implications for classroom practice, these topics seem to be addressed as separate topics and events rather than as ones that identify the causes, how they are interconnected and how they shape the social fabric.

Moreover, following the guidelines of the National Policy on Social Cohesion for Education and Peace (Ministry of Education, 2008) all the NCOEs carry out an Education for Social Cohesion and Peace (ESCP) program and teach Sinhala/Tamil as a Second National Language (2NL) for all TCs. But these initiatives remained mere add-ons that both teacher candidates and teacher educators viewed as a burden. The common "formal curriculum" and assignment schedule as used in all three colleges of the NCOE does not include such courses. Instead, a transmission mode of pedagogy is used to prepare the students for their examinations. While there were larger national policies and program level curricular initiatives geared towards promoting greater social cohesion, the individual programs lacked the infrastructure and the academic culture to promote and mainstream such initiatives. Most teacher educators lacked the knowledge, skills and the attitudes needed to help prospective teachers to develop more inclusive pedagogical practices. This resulted in a recreation of the existing status quo.

Changing perceptions

For future teachers to develop positive outlooks towards diversity and their agency to bring change, the teacher education program needs to

have a formal curriculum and a learning environment that are conducive to multicultural initiatives which can foster positive outlooks toward diversity. Teacher education needs to provide teachers experiences that highlight their responsibility to serve as agents of change (Hawkins, 2011) or as transformative intellectuals. What was evident in the narratives of the TCs was that many TCs developed very strong negatives stereotypes of other communities. In the absence of explicit instruction and cultural exposure that was limited to the celebration of cultural events, many TCs withdrew deeper into their monocultures.

Although many TCs claimed to have learned about other social and cultural groups, some also had reservations about the terms on which others could be accepted. One such line of thinking was expressed by Camal whose narrative reflected his acceptance of other social and cultural groups who accepted the dominant Sinhalese Buddhist culture he represented. While he indicated that he appreciated the exposure he received from the Sri Lankan society, he also had his reservations:

> I met various people from different parts of Sri Lanka. It was a good experience for us to stay with them. There were Tamils and Muslims. Sometimes we are okay with them. Sometimes we are not. We don't accept their ways and they don't accept our ways. Sometimes when we switch the TV on for *pirith*, the Muslims switched it off. There are some good Muslims too. They like to learn about our culture. (Camal)

Similarly, Wansha, an upper-class Sinhalese female sympathized with rural TCs who did not possess good English skills and came to her for help. Their dependency on her for language support gave her a sense of superiority. She also stated that it gave TCs of minority backgrounds a sense of pride to return home and talk about their new friends who were from the dominant and more affluent cultures. "It's a big thing for them to have Sinhalese friends," she noted.

Both Camal's and Wansha's acceptance of others was based on how their own sense of superiority was accepted by others. They welcomed others who recognized them and accepted their dominant ways.

Although the program attempted to create an inclusive learning environment, the minorities felt marginalized. Waseem spoke of how his Muslim culture was overlooked in the program. He felt that the program expected minorities to conform to the dominant culture. As someone who thought it was his responsibility to preserve his culture for future generations, he felt the program was not helping him much. Instead, he perceived that the program fostered unequal expectations from different communities.

> There were ethnic problems. That was a place where people from all cultures and backgrounds were present. We have to respect religions and virtues. For example, we Muslims can't light lamps. Women can't dance or sing in front of men. Women can't be running, even in phys ed. They need to respect our religion. We can't destroy our religion, our virtues and our culture. We have to save it and transfer it to the next generation as our previous generations did for us.
>
> They [the Sinhalese] expect us to speak in Sinhalese, and when we do speak, we don't speak properly. We have a different accent. They feel insulted. But they don't try to learn our language. That's how it is. (Waseem)

Waseem felt, the immersion experience was imbalanced and was more about enforcing the dominant culture.

The experience in the NCOE program also promoted sentiments among majority TCs such as Chintha, who felt the Sinhalese culture was being taken for granted and that the Sinhalese, unlike the other groups, were not united.

> When I was in college, I thought, "It's not good to discriminate." But later, I thought I needed to change my ideas. Sinhalese have only this country. Tamils have Tamil Nadu [In India]. Muslims can go to Pakistan or Arabic countries. After I went to college, I realized that we needed to stand up as Sinhalese. They [minorities] are competing with us. They want to go beyond the Sinhalese. I don't want to discriminate. But my experiences have taught me there needs to be discrimination. (Chintha)

Chintha's multicultural experiences prove to be counterproductive. Though not explicitly stated by the other TCs, the fact that most of the TCs chose schools from their own backgrounds for their one-year internship indicates that they were neither willing nor ready to take up the challenge of teaching students from other communities.

Withya, for instance stated that her choice of the internship school was tied to her belief in the English language teacher's ability to speak the first language of the students. This is partly shaped by negative teaching practice experiences that were not well mentored.

> Teaching Sinhalese students was not easy. When I did my block teaching in Sinhalese schools, the students were very weak. They couldn't understand anything I said in English. I speak Sinhalese well, but when I spoke in Sinhalese, they laughed at my Tamil accent. When I spoke in English, they couldn't understand me. That's a big problem. It's hard to make them understand. It's hard to get them to do tasks. If you have to explain a word like "enthusiasm," knowing the L1 helps. (Withya)

Similarly, while sharing his experiences of doing his internship in a Muslim school, Waseem stated "I am very proud of myself for serving my own community." Irrespective of their backgrounds, the TCs were more comfortable returning to their own communities. They felt more comfortable and accepted to work in their own communities.

Discussion

Although policy formulations and educational reforms are an important first step in post-conflict reconciliation, ultimately teachers are the ones who have to implement these changes. The history of policy and their evolution in Sri Lanka shows that successive governments have identified the role of education and particularly teacher education in the larger processes of reconciliation. However, policies have remained dead letters with little impact. There aren't steps taken, such as developing and implementing comprehensive teacher education programs that stand in contrast to the old, to ensure these policies are a reality. Instead the teacher education curriculum has remained static. If larger structural changes that prepare teachers who

have the agency, knowledge and skills to be change agents who are able to challenge exclusionary and biased values are to take place, the old curriculum needs to be replaced with a new one. Prospective teachers need to first be aware of the existing educational policies and secondly, they need to be aware of their role in the nation's reconciliation process.

Most literature on diversity in teacher populations (Swartz, 2003; Zeichner & Hoeft, 1996) highlights the homogeneity of teachers and points out the discrepancy in backgrounds between teachers and learners. Contrary to this picture, however, the TCs in the NCOE in Sri Lanka, overall, consisted of teachers from all the country's ethnic, linguistic and religious backgrounds. There were also TCs from urban and rural areas from different parts of the country. Diversity of teachers, on the one hand, ensures that teachers are representative of their students. In a segregated educational environment like Sri Lanka, there are teachers from diverse backgrounds who can function as cultural brokers. They can work in schools that are different from their own backgrounds and thus provide the students with opportunities to learn from a teacher who is from a background different to theirs. It is the role of teacher education to ensure that diversity is seen as a strength and a resource to promote greater sociocultural awareness. This awareness cannot come about merely from an immersion experience, rather, it needs to be tied to explicit instruction and dialogue where prospective teachers formulate new understandings of what it means to live and work in a multicultural society. They need to be able to recognize the need to live together peacefully, by recognizing the other and by overcoming prejudices within the individual and between individuals and communities.

The biggest barrier is the NCOEs' transmission-oriented curriculum that does not make explicit the role of the teachers to be change agents. On the one hand, the curriculum does not include courses that explicitly talk about social justice, peace, multiculturalism that can help TCs to understand and value diversity as well as their own roles. The TCs are not provided with conceptual frameworks or skills to make sense of the diversity they experience inside and outside the class. The TCs are neither given the knowledge nor the space to talk

about their evolution and growth during the program so they can formulate a newer and broader understanding of other communities as well as their roles as change agents. This results in TCs regressing more into their own communities and forming negative stereotypes of other communities.

As the research on teacher education programs in different post-conflict contexts shows, education has a unique capacity to provide opportunities for post-conflict societies to dampen the impact of the conflict they have endured (Bush & Saltarelli, 2000). For these transformations to become a truly effective and concrete social reality, however, teachers need explicit instruction that is built into every aspect of their program. Courses in subjects such as Peace and Citizenship Education need to occupy a position that is higher up on the teacher education agenda (Davies, 2005). The manner in which post-conflict states manage, deliberate and execute transformative initiatives is crucial in changing the fragile social conditions that are the legacy of conflict situations (Davies, 2010; Paulson, 2011d).

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RESEARCH ARTICLE
DOI: http://doi.org/10.4038/ouslj.v14i1.7461

OUSL Journal, 2019
Vol. 14, No. 01, (pp. 101-118)

Knowledge and Practices among Female Nurses on Insertion and Care of Indwelling Urinary Catheter to Female Patients in a Selected Teaching Hospital in Sri Lanka

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Abstract

Globally, catheter-associated urinary tract infection (CAUTI) is one of the most common hospital-acquired infections. By following proper guidelines and recommended practice regarding insertion and care of indwelling urinary catheter, one could prevent and reduce CAUTI. Knowledge and practices among nurses regarding the insertion and care of indwelling urinary catheter in female patients are highly

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(Received 24th October 2018; Revised 13th March 2019; Accepted 19th June 2019)

How to Cite: Rohan, P. and Amarasekara, T.D., 2019. Knowledge and Practices among Female Nurses on Insertion and Care of Indwelling Urinary Catheter to Female Patients in a Selected Teaching Hospital in Sri Lanka. *OUSL Journal*, 14(1), pp.103–120. DOI: http://doi.org/10.4038/ouslj.v14i1.7461

essential to minimize complications related to indwelling urinary catheter among female patients. There are limited data available on this phenomenon in Sri Lanka. The purpose of this study was to determine knowledge and practices among nurses regarding the insertion and care of indwelling urinary catheter in female patients at a selected teaching hospital. A descriptive cross-sectional design was conducted among conveniently selected 122 nurses from a teaching hospital. A pre-tested (n=10), a semi-structured questionnaire, was used to collect data. Ethical approval was obtained from the ethics review committees of the Faculty of Medical Sciences, University of Sri Jayewardenepura, and Colombo South Teaching Hospital, Sri Lanka. Findings revealed that only 36% of the participants had a satisfactory level of knowledge on indwelling urinary catheter insertion. Most of the participants (79.5%) had a satisfactory level of practices regarding indwelling urinary catheter insertion. Majority of the participants (82%) had an unsatisfactory level of knowledge regarding indwelling urinary catheter care. Most of the participants (78.7%) had a satisfactory level of practices regarding indwelling urinary catheter care. In conclusion, the majority of the participants had an unsatisfactory level of knowledge regarding indwelling urinary catheter insertion and care. There is a need for education on indwelling urinary catheterization and care for nurses in Sri Lanka.

Keywords: Nurses, Knowledge, Practices, Catheter care, Sri Lanka

Introduction

A urinary catheter is an important medical device. The purposes of urinary catheters are many. For example, to relieve urinary retention, to monitor accurate urinary output, to instill medications, to manage and maintain urinary system during surgical procedure, to establish bladder irrigation for management of haematuria, to manage fistula and promote healing, to conduct investigative procedures, to preserve skin integrity, to monitor urine output, to relieve urinary retention and diagnosing pathology in the lower urinary tract (Urology Nursing Working Group, 2013). Urinary catheterization is used after some of the urological surgery such as distal to mid-shaft hypospadias to enable measurement of intra- and postoperative urine output and to prevent possible acute urinary retention after surgery due to swelling and pain (Hosseinpour *et al.,* 2014).

A hospital-acquired infection (HAIs) causes serious outcomes to a patient, family and the health care system, among them, are: long duration of hospital stay, long-term disability, developing of resistance to anti-micro bacterial drugs and preventable deaths and financial inconvenience to the healthcare system (World Health Organization (WHO), 2010). The most affected site of HAIs is the urinary tract. Urinary tract infection (UTI) is the most common in HAI (Schumm & Lam, 2009). Indwelling urinary catheter (IUC) insertion is the primary cause of UTI, and this catheterization procedure gives one of the risk factors for UTI (Wickramasinghe & Dharmarathne, 2013). Urine culture is the most accurate measurement of patients having UTI or not (Smelter, 2005). The rate of developing bacteriuria for a patient with IUC is 3% - 6% per day and there is a 50% chance of patients developing bacteriuria with IUC between 7 - 10 days (Pratt & Pellowe, 2010). If a patient's urine culture shows bacteriuria>10^5 colony forming units (CFU)/ml, it is considered a positive urine culture for non-catheterized patients. If bacteriuria shows > 10^3 CFU/ml, it is considered as a positive urine culture for a catheterized patient (Schumm & Lam, 2009). *Escherichia coli, Pseudomonas*, *Candida spp*, *Klebsiella and Enterococci* are major pathogens for CAUTI. After catheterization, those pathogens enter the urinary tract by the extraluminal route or by the intraluminal route (Shimna *et al.,* 2014). Proper knowledge and practices during the insertion and care for IUC will lead to reducing CAUTI and related complications. Inserting the IUC procedure is performed under aseptic technique by qualified nursing staff (Urology Nursing Working Group, 2013). When invasive urinary catheterization is not appropriately maintained in hospitalized patients, serious adverse effects can occur, including CAUTI (Bernard *et al.*, 2012). Other than the CAUTI, long-term use of an indwelling urethral catheter can be associated with many complications like bladder spasms, hematuria, urethral erosion, urethritis, periurethral abscess, unprescribed removal, pain, fistula formation, stones, obstruction secondary to encrustation, and leakage (De Silva, 2011). CAUTIs and catheter-associated other complications can be prevented by following catheter care protocols developed from evidence-based practices (Newman, 2010).

The management of IUC including catheter insertion, removal, specimen collection and catheter care, is being mostly done by nurses.

Nurses are the most responsible health care persons for urinary catheter management. Nurses are the persons who first notice about catheter-associated urinary tract infection among catheterized patients (Yoon *et al.*, 2013). Majority of the female patients are urinarily catheterized by female nurses. However, IUC care for male and female patients is conducted by female nurses (Crown & Champman, 2000 cited in Govindamma, 2005).

Several preventive measures have been or observed in those requiring an indwelling catheterization. The most important infection control measure is the introduction of the closed catheter drainage system. In order to provide aseptic techniques during insertion and maintenance of the urinary catheter and drainage bag, health care workers wear gloves when manipulating or emptying the drainage bag and wash hands vigorously between patient contacts (Saint & Lipsky, 1999). There are several guidelines for urinary catheterization developed based on evidence. For example, CDC guidelines of the Infection Diseases Society of America (IDSA) describe various interventions for preventing CAUTI. Prevention of CAUTI has being identified through guideline-based knowledge. Healthcare workers must follow this when delivering care to the patients for prevention of CAUTI (Parida & Mishra, 2013). A nurse is the most responsible person for the prevention of CAUTI provided she follows knowledge-based practice regarding urinary catheterization and caring.

CDC documents presented more than 60 specific recommendations to prevent CAUTI. Most recommendations are for the prevention of CAUTI techniques specific to nursing practice such as the indication for insertion of catheters, a technique of insertion, management of obstruction, specimen collection, and documentation.

A study conducted by De Silva (2011) in Sri Lanka stated that urethral injuries have occurred due to several causes such as the use of the inappropriate size of the catheter, inappropriate technique of securing the catheter and inflation of the catheter insertion by untrained healthcare person. Ministry of Health statistics states that government expenditure for health was Rs 43,022 Million in 2007 and 9 per 100,000 population death occurred due to diseases of the urinary system in 2007 (Ministry of Health [MOH], 2008). Therefore, adequate knowledge and practices for insertion of urinary catheter

and catheter care are paramount to reduce such consequences.

However, there is limited data available on nurses' knowledge and practices regarding the insertion and care of indwelling urinary catheter of female patients in Sri Lanka. Hence the present study is an effort to determine the knowledge and practices of nurses regarding the insertion and care of IUC. When nurses have sufficient knowledge of the insertion and care of IUC, catheter-associated complications can be reduced. This study hopes to encourage nurses to improve their knowledge and practices regarding the insertion and care of indwelling urinary catheter for female patients in Sri Lanka.

Justification

IUC is an important invasive procedure for acute and chronic management of a patient with urinary problems. All the indwelling urinary catheter managements include catheter care, specimen collection and catheter removal (Yoon, *et al.,* 2013). CAUTI is the most common hospital-acquired infection (HAI). An indwelling urinary catheter is the major associated cause for UTI (Schumm & Lam, 2009).

On the other hand, CAUTI is a financial burden on the patient and the healthcare system. CAUTI cause to increase terms of treatment and length of hospital stay. Globally there have been many types of research done to find strategies to prevent CAUTI and to produce guidelines for all kind of catheter management including cleaning, indwelling urinary catheterization, catheter care, catheter removal and specimen collection from the urinary catheter (Lo *et al.,* 2014).

CDC and IDSA guidelines make recommendations to prevent CAUTI. Most of the catheter-related problems reported could be prevented or minimized with more attention to catheter management, early identification of problems and more evidence-based catheter practices (Wilde *et al.,* 2012). Nurses are the most responsible persons for urinary catheter management. Nurses are the persons who notice CAUTI among catheterized patients (Yoon *et al.,* 2013). Therefore, nurses' knowledge and practices regarding the insertion and care of indwelling urinary catheter are essential to reduce and prevent CAUTI. It could also reduce the duration of patients' hospital stay.

In Sri Lanka, there are more female nurses than male nurses (MOH, 2012). Annually government enrols only 5% quota for male student nurses who register with government nursing training schools. Therefore, the majority of female nurses work in male wards. Generally, in male wards, medical officers perform the urinary catheterization procedure. Female nurses do not catheterize male patients. This is because of the inadequate distribution of male nurse in male wards and also due to Sri Lanka's gender-based cultural notions. Hence in female wards, female nurses are actively doing the insertion of urinary catheters and catheter care for female patients.

Therefore, it is essential to identify whether the female nurses have adequate knowledge and practices regarding the insertion and care of indwelling urinary catheter of female patients. The findings of this study may be useful to improve nurses' knowledge and practices regarding indwelling urinary catheterization and catheter care. Furthermore, the findings will be useful to prevent or reduce hospital-acquired CAUTIs among Sri Lankan patients. Also, findings of the study may help to encourage further studies to prevent CAUTIs and improvement of guidelines for IUC insertion and infection control.

Aim and design

Aim

To determine the knowledge and practices of female nurses regarding the insertion and care of indwelling urinary catheter of female patients at a selected Teaching Hospital in Sri Lanka.

Design, Setting & Sample

A descriptive cross-sectional design was used. This study was conducted at the Colombo South Teaching Hospital. Purposively selected (n=122) female nurses from wards/units participated in this study. Inclusion criteria for the participants were: female nurses who worked in female surgical, medical, gynaecological, orthopaedic wards, surgical and medical ICUs at CSTH hospital with more than three months of working experiences and who would like to participate in this study. Working experience of more than three months was needed because to get experiences on IUC insertion and catheter care. Nurses who had less than three months of experiences were excluded from the study.

Data collection & data analysis

Ethical approval was obtained from the ethics committees of the Faculty of Medical Sciences, University of Sri Jayewardenepura, CSTH, and relevant authorities. All participants were informed verbally, and in writing about the study purpose and voluntary participation was encouraged. Written informed consent was obtained from all participants, and their privacy, confidentiality and rights were protected throughout.

A self-administered questionnaire was developed by the researchers based on extensive and intensive literature review. The questionnaire includes 03 sections: Section "A" included Demographics data (age, present working Ward, years of working experience, highest educational level), Section "B" included knowledge of nurses regarding insertion and care of indwelling urinary catheter of female patients and Section "C" included practices of nurses regarding insertion and care of indwelling urinary catheter of female patients. The questionnaire was pre-tested for ten staff nurses in other words, and relevant modifications were done accordingly. The questionnaire took less than 15 - 20 minutes to complete. The data were analyzed in a statistical package of social sciences (SPSS) 20th version for descriptive statistics such as frequency distribution, percentage, mean score and standard deviation.

Knowledge of nurses, regarding insertion of an indwelling urinary catheter of female patients, were assessed and for a correct answer on knowledge of insertion, 01 mark was given, for bivariate questions regarding knowledge of catheter care 01 mark was given for the correct answer and 0 for the incorrect answer. Then marks converted to a percentage and categorized into 03 groups: 0%-59% = Poor knowledge, 60% - 72% = Fair knowledge, 73% -100% = Good knowledge. Knowledge of urinary catheter care questions was given a total of 2 marks and was categorized as follows:0 - 1 marks = Unsatisfactory and total 2 marks = Satisfactory.

Practices of nurses, regarding insertion and care of indwelling urinary catheter of female patients, were assessed as follows:(a) For a correct answer on practices of insertion 01 mark was given for each correct answer, (b) For bivariate questions 01 mark was given for the correct

answer and 0 for an incorrect answer regarding practices of insertion. The results were categorized into 02 groups as 0-8 Marks = Unsatisfactory, 8 – 12 Marks = Satisfactory. Practices on care were given a total of 3 marks, and then it was categorized as follows: 0-2 marks = Unsatisfactory, a total of 3 marks = Satisfactory

Findings

Demographic characteristics of the participants

According to Table-1, most of the participants (60.7%) were less than or equal to 30 years of age (Mean=30.3). Only four participants (3.3%) were graduates, and more than half of the participants (55.7%) have 3 months – 5 years of work experience.

Table 1. Demographic characteristics of the participants (n=122)

Characteristics	Frequency	Percentage (%)
Age (years)		
Less than or equal to 30	74	60.7
More than 30	40	32.8
Not mentioned	8	6.6
Mean=30.3		
SD=5.0		
Highest educational qualification		
Diploma	101	82.8
Undergraduate	13	10.7
Graduate	4	3.3
Not mentioned	4	3.3
Work experience (years)		
3 months – 5 years	68	55.7
6 years – 10 years	36	29.5
> 10 years	15	12.3
Not mentioned	3	2.5
Working unit		
Surgical ward	33	27.0
Medical ward	27	22.1
ICU	31	25.4
Gynaecological ward	22	18.0
Orthopaedic ward	9	7.4

Knowledge and practices regarding IUC insertion

Most of the participants could not correctly identify the correct answer for some questions related to knowledge on IUC insertion such as: what is catheterization procedure what is the average retention period of Foley catheter? The normal length of the female urethra is? Majority of the participants (Mean=5.1, SD=0.87) identified the answer for indications for catheterization. Most of the participants (Mean=5.7, SD=1.0) identified correct answers for documentation after the catheterization

Most of the participants had (more than 50%) knowledge regarding the retained period of silicone catheter and catheter material. Majority of the participants (Mean= 103.8) correctly answered the question of indications for catheterization. Less than half of the participants (42.6%) have followed the aseptic technique before the catheterization procedure as a correct method. Nearly half of the participants (49.2%) answered in the positive for following handwashing technique before the catheterization procedure. Most of the participants (Mean= 86.5) had good practices regarding documentation after the IUC insertion. Participants' knowledge level on indwelling urinary catheter insertion was mostly (36.1%) in the Fair Category (Table 2). Most of the participants (79.5%) had a Satisfactory Level of practices regarding indwelling catheter insertion (Table 3).

Table 2. Overall knowledge of IUC insertion (n=122)

Category	Frequency	%
Poor knowledge	38	31.1
Fair knowledge	44	36.1
Good knowledge	40	32.8

Table 3. - the Overall level of practices regarding IUC insertion (n=122)

Category	Frequency	%
Satisfactory	97	79.5
Unsatisfactory	25	20.5

Most of the participants (63%) who work in the medical wards had a good level of knowledge regarding the insertion of the indwelling urinary catheter. In gynaecological wards, only one subject had good knowledge level regarding IUC insertion. In orthopaedic wards, there was not any subject who possessed good knowledge regarding the insertion of the indwelling urinary catheter. In terms of practices of indwelling urinary catheter insertion, there was a big difference between a Satisfactory Level (7.4%) and Unsatisfactory (92.6%) within medical wards.

In relation to work experience, there was a good level of knowledge regarding IUC insertion among participants (52.8%) who had 6-10 years of work experience. Most of the participants who had 3 months – 5 years of work experience had fair knowledge (41.2%) regarding IUC insertion. All most all participants (100%) who were graduates had a good knowledge regarding indwelling urinary catheter insertion.

Knowledge and practices regarding IUC care

Most of the participants could not correctly identify the exact answer of the questions on knowledge regarding indwelling urinary catheter care. Less than one-third of the subject (Mean=28.7%) knew regarding IUC care. More than half of the participants (59%) had poor practices regarding the frequency of catheter care per day. Most of the participants (82%) were at the unsatisfactory level of knowledge regarding indwelling urinary catheter care (Table 4). Majority of participants (78.7%) had a satisfactory level of practices regarding indwelling urinary catheter care (Table 5).

Table 4. Overall level of knowledge regarding IUC care (n=122)

Category	Frequency	%
Satisfactory	22	18
Unsatisfactory	100	82

Table 5. Overall level of practices regarding IUC care (n=122)

Category	Frequency	%
Satisfactory	96	78.7
Unsatisfactory	26	21.3

Discussion

A total of 122 participants took part in this study from selected wards and ICUs. The response rate was 66.6%. Most of the participants (60.7%) were less than or equal to 30 years of age. Majority of the participants (55.7%) had three months to 5 years of work experience. Almost 82.8% of the study population had a diploma as their highest educational qualification. In Sri Lanka government nurses were recruited as a diploma nurse after the training at Nurses' Training Schools. This could be due to the busy schedule; it is not possible for nurses to find the time to do their higher studies.

Knowledge and practices regarding IUC insertion

More than one-third of the participants (36.1%) had fair knowledge level regarding IUC insertion. One-third of the participants (32.8%) had good knowledge level regarding IUC insertion. Almost more than three quarters (79.5%) were in a satisfactory level of practices regarding IUC insertion and less than one quarter (20.5%) were in an unsatisfactory level of practices. As noted in a recent Robert Wood Johnson Foundation summary, nurses' preferences and judgments are in a high position in decisions on insertion and maintenance of urinary catheters (Kurtzmann, 2007). Therefore, nurses' knowledge and practices regarding IUC insertion need to be at a good level.

IUC insertion is a sterile and invasive procedure (Bernard *et al.,* 2012). A study done at Bangalore to evaluate the effectiveness of integrated catheter care pathway package regarding indwelling urinary catheter care, on knowledge of staff nurses in a selected hospital had been summarized that urinary catheters must be inserted using sterile equipment and an aseptic technique. In the present study, more than half of the participants (63.2%) did not know that the catheterization is a sterile and invasive procedure. This may be the main factor for CAUTIs.

More than half of the participants (55.7%) did not know the retained period of Foley catheter. A study done in a tertiary care centre in Thailand revealed that once inserted urinary catheter in hospitalized patients remained in place, even the indication for its use ends (Apisarnthanarak *et al.*, 2007). Another one done at Rush University Medical Centre, to implement and evaluate the efficacy of an intervention to reduce catheter-associated urinary tract infections, revealed that once inserted, catheters tend to remain in place after appropriate indications end. That research found that overall, 32% of the catheter device days were considered inappropriate (Elpern *et al*, 2009). As per the findings of the present study, it could be argued that such incidents happened to be due to insufficient follow up of guidelines available in hospitals for health care workers. Usually, Foley catheters are used in government sector without knowing the exact retained period, which would be a problem regarding IUC caring, and also it leads to CAUTI.

Half of the participants (46.7%) knew the correct practices and used 12-14 size urinary catheters for female patients. Less than half of the participants (45.1%) mentioned 14-18 size urinary catheters for female patients. This would be another unnecessary problem due to the use of the inappropriate size of IUC. A study conducted by De Silva (2011) in Sri Lanka showed that using inappropriate indwelling catheter sizes cause a mechanism of injury due to pressure necrosis. In contrast to the current study findings, another study was done in Bangalore) among staff nurses in a selected hospital revealed that most of the nurses were not aware of the different sizes of catheters used for different age groups (Elpern *et al*, 2009).

Majority of the participants correctly knew indications

(mean=5.1±0.87) for catheterization. Therefore, nurses had good knowledge of indications regarding IUC insertion. These findings contrast to a study of Jane, (2015) who done a study in tertiary care hospital in India to assess knowledge and attitude among doctors and nurses regarding indication for catheterization. It revealed that the overall the knowledge of doctors was significantly better than nurses in identifying the indications for catheterization ($p < 0.05$, doctors mean= 8.47±0.710, nurses mean= 6.57±0.908) (Jane et al., 2015). In the present study almost all the participants identified the acute and chronic urine retention (94.3%) to monitor urine output (86.9%) and also for presences of pressure sore and patients with incontinence (97.5%) as indications for catheterization. A study done in India among nurses and doctors in a tertiary care hospital revealed that more than one-third of the urine output monitoring in a urine sample for a culture sensitivity was a valid indication for catheterization (Jane, *et al.*, 2015). A study conducted in the United Kingdom revealed that majority (89.6%) of the patients were catheterized according to the IDSA guideline indications (Cheema *et al.,* 2012).

In the present study, most of the participants (Mean=86.5) had good practices regarding documentation after the IUC insertion. Proper documentation after the IUC insertion will help to identify when the catheter should be removed or changed. Study conduct in the United States of America revealed that the majority (87%) of nurses documented their cases after the catheterization (Robinson et al., 2007). Another study conducted by Harley *et al.* (2011) showed that if there was proper documentation, it could lead to a reduction in duration (mean =4.9 ± 5.3, range 1-21days) of the catheterization.

Knowledge and practices regarding IUC care

In the present study, the majority of the participants (82%) had an unsatisfactory level of knowledge regarding IUC care. There were more than three quarters (78.7%) of participants in a satisfactory level of practices regarding IUC care. A similar study conducted by Govindamma (2005) in India to assess the knowledge and practice of staff nurses regarding the care of the patient with indwelling urinary catheter showed that 42% of staff nurses had 'excellent knowledge' and 58% staff nurses had 'good knowledge' regarding indwelling catheter care. When compared with that study, the current study

findings are higher than the results of knowledge as well as practices of urinary catheterization. A study conducted in Southeast Michigan showed that the majority of nurses (57%) had a good level of practices regarding catheter care (Mody *et al.*, 2010).

Concerning urinary catheter care, the study conducted among healthcare workers to assess the knowledge of recommended urinary catheter care practices in Southeast Michigan revealed that majority of respondents (85%) were aware of recommendations, such as cleaning the catheter site regularly (Mody, *et al.*, 2010). In contrast with those findings, the current study showed that only 50 nurses (41%) knew the correct answer for the frequency of catheter care per day. Mody *et al.* (2010) showed that 35% of health care workers know about regular changes in the catheter bag. According to the present study, less than one-third of the participants knew when a urine bag should be changed in none high-risk unit (30.3%) and high-risk unit (27%). Lack of knowledge on the exact time duration to change the urinary bag could lead to unnecessary infections. This result may be an indication of one of the facts for CAUTI.

Conclusions

In conclusion, CAUTI is one of the most HAIs. This is preventable if correct indications for catheterization, correct practices for catheter care and other preventive measure are followed attentively. Nurses are the most responsible parties for catheter management. Purpose of the current study was to determine the knowledge and practices of nurses regarding the insertion and care of indwelling urinary catheter in female patients. Findings of this study indicate that more than a quarter of the nurses (31.1%) had poor knowledge regarding indwelling urinary catheter insertion. Majority of the nurses (82%) had an unsatisfactory level of knowledge regarding indwelling urinary catheter care. Findings highlight a need for improvement of knowledge regarding urinary catheter care among nurses. This study can be improved by modifying the present study to overcome the discussed limitations. There is a need to develop proper guidelines regarding indwelling urinary catheterization and care for nurses in Sri Lanka. Regular practising of updating guideline will help to improve nurses' knowledge regarding indwelling urinary catheter insertion and care in

Sri Lanka.

Limitations

The study was conducted in only one hospital, which was not enough to generalize the whole nurses' knowledge and practices of nurses regarding the insertion and care of indwelling urinary catheter of female patients in Sri Lanka.

Acknowledgements

The authors thank all participants for their time and commitment to this study.

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RESEARCH ARTICLE
DOI: http://doi.org/10.4038/ouslj.v14i1.7453

OUSL Journal, 2019
Vol. 14, No. 01, (pp. 119-145)

Directives in Sinhala: Children's Speech and Adult Child-Directed Speech

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Abstract

Directives is an important area of study in child language development and language socialization since it illustrates children's ability to affect the behavior of others around them by using language. However, we have no account of directives by children in Sinhala. A study of Sinhala directives by children is important given that research on diverse languages contribute to significant changes in our knowledge of both the typology and the

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(Received 25th May 2019; Revised 21st June 2019; Accepted 24th June 2019)

How to Cite: Abesooriya, L. and Perera, K., 2019. Directives in Sinhala: Children's Speech and Adult Child-Directed Speech. *OUSL Journal*, 14(1), pp.121–138. DOI: http://doi.org/10.4038/ouslj.v14i1.7453

linguistic resources used for directives in general. The main aim of this study is to record the forms of directives used by children speaking Sinhala as a first language. Sinhala, the dominant language of Sri Lanka, is little studied in terms of pragmatics. Therefore, a secondary purpose of this study is to contribute to the knowledge of Sinhala pragmatics. Using recorded data and observation from children and their caregivers, this paper studies the use of Sinhala directives by middle class children and their adult caretakers in Sri Lanka. The study shows that children from 2-4 years of age are able to use directives appropriate to their pragmatic function. It also shows surprising findings on children's use of (im)polite language, an area that needs more research.

Keywords: child-directed speech, directives, child language development, politeness, Sinhala

Introduction

Being able to instruct others is an important part of human communication. Languages are very diverse in how this form of communication is affected. They assign different features for the formation of directives, or the speech act used to direct something. How do Sri Lankan children, speaking the majority language Sinhala, use directives? How do adults use directives in child directed speech? In this paper, we explore the use of Sinhala directives by children and their caretakers in their home settings. Through the presentation of children's polite and impolite use of directives as well as caretakers' directive use, our aim is to contribute to the field of pragmatic development in children, especially in Asian contexts.

A secondary aim of this paper is to contribute to cross-linguistic research on directives by presenting an array of Sinhala linguistic features that are used to form directives. Despite the attention given to directives in North America and Europe, studies of directives in Asian contexts are uncommon, with only one study

that we know of (Fedricks, 2012) on a Sri Lankan language, in this case Sinhala.

In the following section, we define directives and present the current status of literature on directives, including studies done in Sri Lanka. In this same section, we also synthesize work on children's acquisition of directives. In the third section, we outline our research design and provide a description of our method and data. Following this, we present the findings of our study, which includes a description of directives in Sinhala, a brief discussion of (im)politeness in relation to this, and an analysis of directives usage by the children and caretakers in our study.

Review of Literature

In this section we provide a review of the relevant literature, in two sections. The research on directives and the research on child language development are largely separate but overlap in some instances. Therefore, we draw on both areas of study here.

Directives

Directives have been a productive area of linguistic research since the work of J. L. Austin and John Searle, resulting in a debate on the definition of directives in later research. The most basic definition of a directive is that they are "attempts… by the speaker to get the hearer to do something" (Searle, 1975; Clark, 2009). In Searle's (1975) list of directives, he includes commands, requests, questions, appeals and pleas, challenges, permission and advice as well as dares and defiance. Despite agreement on the general definition, however, the precise definition of directives is still debated by scholars. The main issue at stake appears to be the question whether the imperative - the canonical form of a directive – is the only type of directive, or whether 'indirect' attempts at making a hearer do something is also a directive (Curl & Drew, 2008). We understand directives to be a broad category, adhering to the job of 'getting something done' (Searle, 1975).

An early and long-standing understanding that indirect directives are more polite than 'explicit' directives has been challenged in recent years (Watts, 2003 as cited in Curl & Drew, 2008). It is generally true of directives in English where the more indirect directive is used for politeness (Craven & Potter, 2010; Curl & Drew, 2008). In an early study of directives in American English, Susan Ervin-Tripp, (1976) named five types of directives: statements on need, imperatives, imperatives embedded in other syntactic forms such as questions, permission directives, directives structured as questions, and hints. Additionally, Ervin-Tripp discussed multiple social variables that affected the choice of directives, some of these being hierarchical relationships, familiarity, and presence of outsiders. However, Weigel & Weigel's (1985) study of directives in the "primarily black male migratory agricultural laborer subculture" of Eastern United States (p.65), an attempt to test Ervin-Tripp's classification of directives, contradicted Ervin-Tripp's findings. In it, the participants showed a high number of imperative usages disregarding the social and work constraints that would have been expected by the findings of the prior study. Taken together, these two studies show the need to study directives usage across contexts even when it is the same language.

Studies on different languages have provided both context-related and language-related findings. Rossi's (2012) study on Italian shows that directives and requests for action differ according to the project (course of action undertaken together) and ownership, i.e. whether the course of action is felt to be undertaken individually or jointly. In Greek, imperatives used as directives are widespread, and are made acceptable by the existence of linguistic features that indicate not only command (which an English imperative does) but also wishes and desires (Economidou-Kogetsidis, 2002). Additionally, while Ervin-Tripp has not discussed positive and negative imperatives separately, some scholars do so (e.g. Weigel & Weigel, 1985). Similarly, studies on Nepalese and Japanese data show that different linguistic forms (e.g. modals) can be used to vary the intensity of

directives (Upadhyayi, 2003 cited in Fedricks, 2012; Takada, 2013). Evidently, languages use a variety of linguistic features alongside directives to affect their politeness and directness, and these two aspects do not necessarily contradict each other. In other words, directness in directives does not always imply impoliteness. These studies are especially relevant to the study of languages in which morphological forms signal directives and politeness separately, as we will show in our research.

In relation to Sinhala, the sole study we are aware of is Fedricks' (2012) study of directives in a Buddhist temple setting in the USA. Federicks used a classification system that included ten types of directives. These included eight from Ervin-Tripp & Upadhyayi as well as two new types (epistemic directives and zero verbal directives) arising from his own data. Fedricks shows that women used suggestion directives more, and used less imperatives than men, who used question directives more. Our study extends this work by exploring a different setting – the home setting, which is a linguistic domain that is expected to show informal directive usage. Fedricks (2012) and other Sinhala scholars (Ch. Premawardhena, 2007; Chandralal, 2010) also mention the verbal suffix *–ko* as a feature used with imperatives for politeness and for persuasion. Our study illustrates counter-examples to this which we will discuss later.

Children and directives

A large body of research exists on child language acquisition (CLA), also called first language acquisition (FLA), a dynamic area of study for many decades in linguistics (Ferguson & Farwell, 1975), psychology (MacNamara, 1972) and in anthropology where it is studied as part of language socialization (Duranti *et al.*, 2012). Much of this early research has been in monolingual settings of language acquisition, either of English or other languages. This study adds to the current trend in researching child language development in bilingual settings, given that even in generally bilingual settings individual families can show variation in this.

Since the 1970s, there has also been much research on children's pragmatic development (Cameron-Faulkner, 2014; Hollos & Beeman, 1978; Zufferey, 2016). This includes their ability to respond to others and produce various speech acts, such as directives. Two areas of linguistics have produced research on directives - developmental studies and studies of (im)politeness, both bodies of research relevant to our study. This body of research is cross-linguistic in nature (Matthews, 2014), a necessary addition to research in directives given the diversity of language-specific forms of directives. Our study adds to this.

Research on children's development of language abilities has shown that language approximating a directive, or an order for an adult to do something, emerges in the child at about 10 months of age; conventional directives appear at around 20 months, or a little over 2 years of age (Matthews 2014). Children find it "easier to make certain requests (ask, order, forbid) than to allow something or to make a promise about something" (Clark, 2009). Therefore, children may use a higher number of directives than adults, which makes directives a productive locus of study for CLA. However, assigning illocutionary force to children's utterances is at times difficult and should be done with care in very young children (Cameron-Faulkner, 2014). Thea Cameron-Faulkner (2014) calls for more research that takes into account the context and co-participants who are involved in speaking, along with the children themselves.

Such contextual work has been done in the culturally and linguistically diverse area of (im)politeness research Küntay *et al.* (2014) and Duranti *et al.* (2012) define politeness as ways of maintaining social and communicative concord and avoiding social discord. Further, Brown & Levinson (1987) define politeness as showing awareness of another person's public self-image, or face, for example, by avoiding imposition on others or showing solidarity with others. For instance, Clark (2009) positions "Come here" as a less polite directive whereas "Could you come here?" as a more polite directive. Matthews (2014) states that politeness vary according to factors such as speaker-

hearer characteristics (e.g., age, degree of familiarity), context (e.g., level of formality), and topic of conversation. Even though different languages require different grammatical forms to express directives, cross-linguistic studies have shown that children generally seem to acquire the pragmatic function of directives early and they "are sensitive to contextual factors such as activity type and age of interlocutor and vary the level of politeness accordingly" (Küntay *et al.*, 2014; Zufferey, 2016). In an early cross-cultural study, Hollos & Beeman (1978) found that Norwegian and Hungarian children differed in their communicative styles when using directives, with Hungarian children being more direct and Norwegian children being more indirect. Contrary to previous research which showed that girl children were more indirect and therefore more polite in play, and boy children were the opposite of this, Aronsson & Thorell (1999) have shown that children of both sexes delighted in playing conflict situations. They also showed that children used directives to perform invitations, or even as dares or threats showing multiple pragmatic functions as used by children. Despite the accumulation of research in different languages, research on bilingual children acquiring directives in both languages is still scarce.

Research on CLA in Sri Lanka is sporadic. An early paper by James W. Gair and colleagues (Gair *et al.*, 1998) continues to be the most robust. In a series of studies, they tested Universal Grammar (UG) principles by studying the acquisition of Sinhala by a large group of children, concluding that children mapped the spoken languages they heard to the underlying control structures they had acquired. More recent studies in child-related language come from the field of speech and communication disorders. One such study by Hettiarachchi and Ranaweera (2013) illustrate the use of multisensory storytelling to enhance vocabulary development in children who have language-learning difficulties and discusses possibilities of increased skills in communication in this manner. In a study of the acquisition of Sinhala case marking by 37 children Silva (2002) found that children acquired Sinhala case marking as a cluster (rather than separately) and

that no difference in acquisition was noted due to gender or regional differences. Children in Silva's study were able to produce directives by 1.8 years of age. This ties in with findings on the early production of directives in children of other linguistic environments (Matthews 2014). As is evident, there is a pressing need for child-language acquisition studies in Sri Lanka.

Methodology

Many of the studies in child language acquisition have used elicitation techniques or improvisations to collect data (Aronsson & Thorell 1999; Gair *et al.*, 1998), whereas research in language socialization uses naturally occurring data. Similar to the latter, this study uses a qualitative research design which includes recordings of naturally occurring interaction and observations.

The participants of this research were purposively selected. Five children from five middle class families from the first author's neighborhood in Kandy, the main city of the Central Province of Sri Lanka. The families were considered middle-class due to parental occupation (professional) and access to English (at least one parent spoke English). We will name the families A, B, C, D and E. They were all female children between the ages of two to four years.

The first author initially approached the families to research bilingual families with the prospect of studying Sinhala-English bilingual children and chose two families for extended observation. During an initial meeting with the first author, the mothers of the children stated that the families were bilingual. However, the use of the two languages varied in the families and the children did not speak in English during observation. Only family E was observed to be bilingual; in families C and D, the fathers spoke to the children only in English whereas the mothers spoke to them in Sinhala and English, with varying

extents of codeswitching.† In family D, the father did not spend much time with the children due to his work schedule, which entailed travelling regularly to other parts of the country, and spent only weekends with the child who then had less exposure to English. Similar to father D, father B also worked outside the region. The fathers in families E and A travelled to work daily whereas the mothers were homemakers. Some families lived with extended family members, which included grandparents. The primary caretakers – mothers and grandmothers - used mostly Sinhala in their interaction with the children.

Data was collected over a period of a month. Initially, the caretakers undertook to self-record children's everyday speech. However, this was not successful as the primary data collection method due to the caregivers being pressed for time as well as, in some instances, their lack familiarity with technology. The first author then audio recorded the interactions during her observations in two of the households; the notes taken during observations were also written into field notes. The children were observed during their meal times and their play times with other children. We analyze approximately 570 minutes (i.e. 9.5 hours) of spoken data and 20 minutes of self-recorded interaction by the families. The speech samples were coded for types of directives and their functions, and then compared to the categorization by Ervin-Tripp (1976) and Fedricks (2012). When coding for (im)politeness suprasegmental features such as pitch and intonation were taken into consideration. We will not, however, discuss suprasegmental features in this article.

Findings and Discussion

In this section, we first present a classification of directives of the Sinhala language as found in our data. Following this, we present a brief discussion of forms of (im)politeness relating to directives,

†Codeswitching is here defined as the alternation of codes both between speakers' turns or within a turn (Wardhaugh, 2011).

where we challenge the current understanding of one form. Finally, we present our findings on directives use.

Form and function of directives in Sinhala

This section includes a discussion of the classification of directives and examples of directives found in our data. We have used the classification of directives by Ervin-Tripp (1976) and Fedricks (2012) as the basis for our classification. However, our data does not include the following categories of directives: elliptical directives, epistemic directives and zero verbal directives.‡ This absence could be due to the particular nature of interaction we observed, which is that of children interacting with each other, or interacting with adult caretakers. We have left out two categories - 'permission requests' and 'questions as directives. In our data, requests are not made for the purposes of obtaining permission; neither is the question form used for queries. Therefore, question forms are absorbed into other categories, depending on their function as directives. Our data also included two types of directives not mentioned in Ervin-Tripp (1976) and Fedricks (2012). These are predictions and conditions which function as directives.

Next, we will provide examples of each type of directive found in our data. In most instances, we show the directives used by children, except in the case of directive types that have only been used by adults. Children in the study are identified by the alphabetical letter correlating with the family. In some cases,

‡ Elliptical directives have a noun or verb missing (e.g. *tawa dekak*, meaning 'two more'); epistemic directives use epistemic adverbs such as *hithənəwa* (e.g. *mamə hithanne obə wahanse mehetə wadinəwa*, meaning 'I think you come here most honoured sir'); zero verbal directives where no conversation takes place but action is directed by contextual knowledge and non-verbal communication such as gesture (e.g. long pause used to indicate lay people to take the lead in prayers). Definitions, examples and translation are from Fedricks (2012, pp.35-36).

children show developmental errors in terms of phonology, which are marked by an asterisk (we discuss these later).

1. Need statements

[1] Child C:	*Bittərə*	*witərak*	*o:ne*
	eggs	only	want
	I want only eggs.		

While Fedricks (2012) identifies three verbs for the expression of need (*o:ne, o:ne kərənəwa, o:ne wenəwa*), in our data we find only *o:ne* (want). In this situation, the child expresses a need for eggs, which then functions as a directive to be given eggs. It is probable that Fedricks' research setting, a temple, produced more variations of *o:ne* due to extensive politeness constraints that exist in such a setting, whereas such an array may not be necessary for the children in the home domain.

2. Imperatives

We note two variations in imperatives: imperatives to act, as well as imperatives to refrain from acting.

[2] Child E:	*indəko*	*mamə*	**kəlnəkan. indəko*
	wait+POL	I	do+COND
	wait+POL		
	Wait till I do it. Wait.		

In this situation, the child wants to do an action herself, and commands the playmate to wait until she does it. This functions as an imperative. As Fedricks (2012) states, Sinhala directives add *-ko* to indicate that it is a polite form (glossed for now as POL) or for persuasion. Here, *-ko* is added to the verb *indəko* for persuasion.

The third example is an imperative to refrain from an action.

[3] Child B:	*epa*	*oya*	*endə*
	don't	you	come

Don't come

In this situation, the child commands her playmate not to come. In Sinhala, the quasi-verb *epa* is added to the verb to indicate that the action should not be done, classified as negative imperatives by Chandralal (2010).

Additionally, a negative imperative can also be formed by *æti*, another word which Gair and Paolillo (1997) classify as a quasi-verb (uninflected for tense, p.26), as in example 4:

[4] Child B:	*æti,*	*æti*
	enough	enough
	Enough!	

Here, the child states that she has had enough food and she does not want any more. This is again a negative imperative, since she is indicating that she should not be given more food; it is also a refusal to eat more. Of note is the fact that in itself, *æti* is not a negative and can function both as positive (to mean 'yes, I have enough') or negative, as in the above example.

3. Hints

[5] Child E:

me:	*o:mə** *dunne*	*newe:ne*	*mamə*	*kiyəla*
here	like that gave	not+AGR	I	say

Hey, that is not how I taught [you to do it].

In this instance, the main proposition of this statement by the child is that the playmate is not acting according to instructions. By saying this, she implies that the addressee has not followed directions correctly. The child is expecting an active response from the listener, for the action to be done her way, which makes it a directive. In the next example, Child D is showing another child how to do something.

[6] Child D: *me:mə* **galanne*
this way removes FOC
This is how you remove [it].

Ervin-Tripp (1976) includes statements of condition as the example for this category [6], which we also note in our data. We observe that both examples are more than hints, since [6] is actually a demonstration of an action, which can be considered a directive.

4. Suggestives

[7] Child B: *kavudə* *loku* *balamu* *ennə* *malli*
Who big see come younger brother
Let's see who is taller, younger brother

In this occasion, the child suggests that her playmate, a younger boy, should join her so that they can measure their heights and conclude who is taller. Since Sinhala is a pro-drop prone language, the subject is missing in this but is made clear by the verb ending with the morpheme *-u* (first person plural). This confirms Fedricks' (2012) finding that suggestives are used as directives for collaborative action.

5. Requests

Our classification of requests is somewhat different to the classifications by Fredericks and Ervin-Tripp. Both scholars have a category termed permission directive, which include some requests. However, in our data, requests were not used to ask for permission; at the same time, the data does not include permission requests. The form of the requests is typically the question form (but not all questions are requests).

[8] Child A: *athəna* *innæ:*
there stay+Q
Stay there, ok?

In this instance, the child needs the listener to wait for her at a particular place. The verb *innə* is coupled with *-æ:* an agreement marker when ending a verb, and in rapid speech the neutral vowel ending of the verb is elided. The addition of *-æ:* transforms the imperative verb form into a request because it makes it more polite and seeks agreement to the imperative.

[9] Child B:	*mage*	*pænsələ*	*dennəko:*
	my	pencil	give+POL
	Give (me) my pencil.		

Here, the child asks her playmate to give her pencil back. The verb is in the canonical form of the imperative - *dennə*. However, the addition of *-ko* adds a persuasive element to it, which makes it a request similar to 'can you please give me the pencil?' rather than a direct imperative.

6 Refusals

In our data, refusals come in two forms. The first form includes the quasi-verb bæ: (cannot) as in example 10.

[10] Child D:	*athin*	*kannə*	*bæ*:
	hand+INS	eat	cannot
	I can't eat with my hand		

Here, the child's refusal to eat by hand also acts as a directive that she should be fed by her mother. The mother understood is as such. However, not all refusals are directives and the function is context-bound, like most other forms.

The following three types of directives are only found in adult speech. For convenience, we remind the reader again that 4.1.8 and 4.1.9 are newly formed categories necessitated by our data.

7. Embedded imperatives

[11] Mother C:
akkitə *kiyannə* *me* *mona:th* *ekkadə* *kanne*
elder sister+DAT tell this what+also with+Q eatFOC
Tell the elder sister what she will eat this with.

In this situation, the mother wants the child to explain to her older sister what curries accompany the rice. The utterance begins with the directive *kiyannə* (an imperative) which is followed by the content of what needs to be conveyed.

8. Prediction

[12] Mother D: *baba: dæn do:ni wage: duwənəwa:*
baby now Doni like run
Now you (the baby) will run like Doni

In this example, the mother predicts that the child will run like Doni, a character in a popular television series, to come and eat her food. The verb *duwənəwa*: is used in the present tense, which is also used for the future and for predictions in Sinhala. This is an indirect directive, acting as an imperative for the child to eat. We have two such directive forms, both by adults, to convey expected action to the children.

9. Condition

[13] Mother D: *jo:datə* *ice* *ekak* *genəth* *denəwa.*
joda+DAT ice one bring give
[I] will bring Joda an ice cream.

Here, the mother somehow wants to feed the child. Hence, she makes a 'deal' that she will buy her an ice cream if child D eats her food. The little girl is addressed by a pet name, Joda (taken from a well-known character of a local television series). The

conditional statement acts indirectly as a directive to eat, which is the only condition under which the child gets her ice cream.

10. Development of directive forms in children

While the syntactic form of the directive is correct in the language produced by the children in this study, in some instances we note developmental errors in phonology. In example [2], *indəko mamə *kəlnəkan* (wait till I do it), the child does not produce the /r/ in the verb /*kərənə*/, replacing it with /l/. We also find replacement of /r/ with /s/ in /*saumak*/ in *loku: saumak hadannə* (make a large circle), and replacement of /m/ with /p/ in /*patə*/ in *patə bæ:* (I can't). Other such developmental errors found above are: omission of /r/ (/*witəak*/) [example 1], omission of /h/ (/*me:mə*/) [example 6] and omission of /w/ (/*galanne*/) [example 6]. While not directly relevant to the study of directives, we present these as a contribution to the discussion of child language development in Sinhala.

Politeness in directives

This section presents our findings on the use of polite and impolite forms of directives, including a description of the use of the morpheme *–ko* in its use as an intensifier.

1. Verbal forms of (im)politeness

In the presentation of the structure of directives so far, we have shown the canonical forms of the directive, which is also counted as the polite form. Unlike English, and similar to languages such as Korean (Byon, 2006) and Japanese (Geyer, 2018), Sinhala expresses (im)politeness in directives through verbal morphology and affixation.

The canonical form of the directive is the imperative, for which Sinhala uses the infinitive form of the verb (Chandralal, 2010). Examples for this are *kiyannə* (tell), and *kannə* (eat). In Sinhala, however, as we saw above (4.1.4), directives can also use the verb's first-person plural form (e.g., *kamu*) and other morphemes as seen above. In terms of politeness, the imperative can be considered the most direct form of the directive, whereas

suggestives, conditions, and predictions can be considered indirect and at the same time, more polite forms of the directive.
At the same time, Sinhala also has an impolite form of the verb. For this, Sinhala uses the present tense form of the verb (ending in *-wa*). An example is given below:

[14] Child D: *pa:tiyə yanə ekəta da:nəwa*
party go one+DAT put
Put it to the one that has a party.

Here the child orders the sibling to switch to the television channel that is showing a party. In this, the verb form used is *da:nəwa* (put), derived from *da:nnə*. In this impolite version of the imperative form, the verb is shortened and verb-final *-wa* is added. This greatly adds to the force of the imperative, making it a peremptory order.

2. The morpheme -ko and (im)politeness

The morphological feature *-ko* has generally been typified as a politeness or persuasive marker in Sinhala (Fedricks, 2012). This is, however, misleading. We present a reinterpretation of this feature, classifying it as an *intensifier* (glossed from now on as INT) as shown through the two examples below. As an intensifier it enhances the polite and impolite forms of the imperative used.

a) *-ko* with the canonical form of the imperative

When *-ko* is used with the canonical form of the directive - the imperative - it adds an element of entreaty or persuasion to the imperative.

[15] Child D: *dennəko dennəko*
give+INT give +INT
Give it, please! Give it, please!

Here, the verb does not contain any features that indicate extra politeness but neither is it impolite even without the *-ko*.

However, the *-ko* form adds a persuasive element to the verb, and together they form what could be termed a request.

b) *-ko* with the impolite imperative

In the example below, the same verb shown in (a) above is seen with the morpheme *-ko*, but this time with the impolite form of the verb.

[16] Child D: *denəwako*
give IMP+INT
Give it! (rudely)

Here, the child asks for something from the brother, using the impolite imperative (*denawa*), to which the *-ko* is added. *-ko* does not neutralize the impoliteness but instead intensifies the force of the imperative. Given that it is added to the impolite form of the imperative, we argue that *-ko* is not a politeness marker as classified in prior literature, but is an intensifier used for persuasion: it intensifies the force of the verb, regardless of whether it is in the polite or impolite form.

Use of directives by children and adults

In this section, we analyses how directives are used by both the children and the adults in our study. This includes an analysis of the types of directives used by each group as well as a more detailed analysis of the children's use of directives. Table 1 provides the number and type of directives used.

Table1. Types and Number of Directives Used by Participants

	Child	**Adult**	**Total**
Need	1	1	2
Imperative	28	42	70
Embedded Imperatives	0	1	1

Hints	3	1	4
Suggestives	5	2	7
Requests	12	18	30
refusal	1	0	1
Predictions	0	2	2
conditions	0	2	2
Total	**50**	**69**	**119**

As this table illustrates, adults use more directives than children. This is predictable, as it is indicative of the adult's authority over the child and the nature of caretaker interaction with children, i.e. they frequently want children to do something. This is probably also connected to the situations that were observed and recorded, such as instances of playing and feeding.

The directive types used most by both adults and children are imperatives and requests. Children use marginally more hints and suggestives than adults. Only adults, as we discussed in section 4.1 use predictions and conditions. This is probably to do with the nature of power differentials in adult and child interaction. While adults are in a position that allows them to promise or make conditions on child behavior, the opposite is generally unseen.

The largest part of the directives in our data (58%), are imperatives, which is the most used type of directive by both adults (42 tokens) and children (28 tokens). However, there is a difference with regard to addressee. Adults address imperatives to children in all instances. Children address imperatives to a variety of addressees, including playmates, siblings, and adult caretakers. Significantly, in 15 out of the 28 instances of imperatives, i.e. approximately half the time, children address imperatives to adult caretakers. In some instances, they use

other types of directives before they use an imperative to the adult. At the same time, we also note the important point that children (except child D) do not use impolite forms of the imperative towards their parents, illustrating that children are well aware of the hierarchies of power in the family network.

In terms of choice of language, even though all five families claimed to be bilingual in English and Sinhala in the initial interview, none of the families used utterances that were fully in English in the recorded and observed interaction. It was observed that some adults used Sinhala-English mixed utterances. In the case of directives, 08 out of 69 directives included Sinhala-English codeswitching and were used solely by the adults.

[17] Mother D: *give ammi galawala dennə*

give mother remove give
Give, I will remove it and give it back

Here, the mother starts the utterance in English, with the verb used for the directive in English, and continues the rest of the utterance in Sinhala. Similarly, in other such occasions, the adults use only one English word per utterance (these words are nouns and verbs).

Even though the families had stated they were bilingual, none of the children used English in recorded speech. This aligns with prior findings on bilingual children's speech (Clark 2009; Matthews 2014) which shows that children are able to discern and decide how to use which language in a context-friendly manner and that they use directives in the language(s) with which they are most familiar. Given that few adults in their environment were using English, the children in this study too use mostly Sinhala.

We had noted that Child D's use of directives is anomalous: she uses twice the number of directives in comparison to other children. She also uses, though only twice, impolite directives to

her parents. The recorded speech environment does not show significant differences between child D's environment and that of other children and needs further exploration to fully understand.

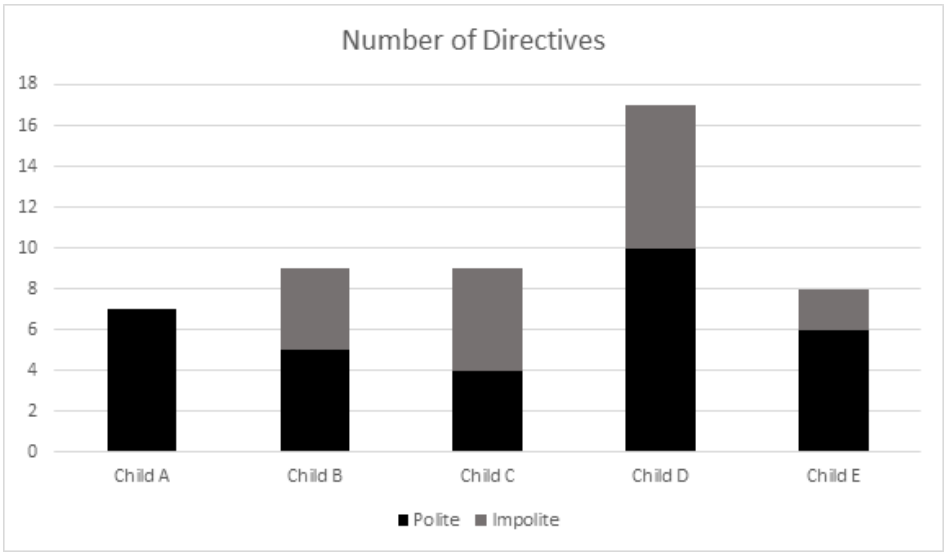

Figure1. Number of polite and impolite directives by child

Additionally, children address a larger amount of their directives (60%) to playmates and siblings, of which, roughly half are impolite.

[18] Child B *katə* *wahagenə* *innəwa*
mouth shut+COND stayIMP
Shut your mouth and wait.

The above is typical of interaction between playmates and is part of their regular communicative style. The child addresses her playmate using an impolite directive because the playmate does not listen to her or does what she asks him to do. While there are studies illustrating that girl children (and women) use more politeness strategies than boy children (or men) (e.g. Ladegaard, 2004; Sheldon, 2016), our data show girl children using a range of polite and impolite linguistic markers. Our findings, therefore, support the literature (Cekaite, 2013; Goodwin, 2006) that argues that children's use of (im)polite linguistic features are as

appropriate to their environment, i.e. when interacting with other children, girls may also use 'rough' language.

Very rarely do children use impolite directives towards adult caretakers. Only one child (Child D, twice) uses impolite directives towards parents, and only one child (Child E, 1 directive) uses impolite directives to the grandparent. Even in these situations, the child's use of the impolite imperative generally occurs in situations where they feel that their polite (but insistent) directives are unheeded, showing that this is a marked feature in language use towards adults by children. In most instances, adults ignored the use of the impolite directives by the child towards themselves or others, highlighting an area worth further investigation in language socialization.

Conclusions

Our study presents findings related to directive use in Sinhala, from the perspective of child language use and adults' child directed speech. These Sinhala-speaking families showed that children used more directives with their playmates than with adults they address. Furthermore, all the children in this study use similar amounts of polite and impolite directives. However, they use more impolite directives when with playmates and siblings, showing more care when talking to their parents or elderly caregivers (e.g. grandparents). This ties in with prior research in language socialization and pragmatic awareness that children's language use shows heightened awareness of their environment.

At the same time, we note that adults in this study rarely addressed the children's use of the impolite forms. In many instances, adults ignored their use of the impolite form but neither did they praise the use of the polite or canonical form of the directives. We make no conclusions on this phenomenon, given that this was not a focus of our study and is an inadvertent finding. Nevertheless, this would be a useful area for future investigation. In terms of pragmatic awareness, it is worth noting that all the children, even when they show developmental errors

in phonology, have acquired the pragmatic function of using directives.

Yet, since the study focused mostly on children and child-related activities, we also found less complex forms of directives in our data. The children's directives especially are the more direct and simple forms of the directives. Three forms of directives found in other scholars' data - elliptical directives, epistemic directives and zero verbal directives – are not found in our data; whereas, predictions and conditions are also used as directives in our study. These differences are undoubtedly due to the specific linguistic and research context of our study, highlighting the importance of context to pragmatic research. Sinhala's linguistic resources may be more suitable for some types of directives, given that the findings of both our study and Fedricks (2012) differ to Ervin-Tripp's classification of English directives. More research is necessary in both Sinhala and other languages with different linguistic properties to English, to move towards a general classification of directives.

Acknowledgements

Initial versions of this study were presented by the first author at the Undergraduate Research Symposium (2016), Dept of English Language Teaching, University of Kelaniya and at the International Conference of the Sri Lanka English Language Teachers' Association (2016). A co-authored preliminary analysis of the current version of the study was presented at the Sinhala Studies Symposium (2018) at the University of Colombo, Sri Lanka. The authors wish to acknowledge the useful comments by participants of these conferences and the constructive feedback by two anonymous reviewers.

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OUSL Journal, 2019
DOI: http://doi.org/10.4038/ouslj.v14i1.7462 Vol. *14, No. 01, (pp. 147-152)*

The 32nd OUSL General Convocation Address 2019

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Compassion and The Professional: Two Sides of The Same Coin?

Honorable Chancellor, Vice-Chancellor, Deans, Heads of Departments, Distinguished Academic Staff Members and Administrative Staff, Graduating students, Ladies and Gentlemen. Thank you for the invitation and granting me this honor to speak to your graduates at this convocation.

To the graduates gathered here, my heartfelt congratulations to all those who receive their degrees today at the convocation ceremony. You are embarking on a professional career or have advanced in your profession with a further degree. We are here today to celebrate your achievements, to inspire you, and to wish you the very best in all your future endeavors.

Outline

The topic of my address is ***Compassion and the Professional***. In the next 15 minutes I will first define the term 'compassion' and describe its relevance to professionals. I will then describe a few concerns about compassion in relation to professional education and ways of enhancing compassion through education. My arguments will be supported by medical research. I will end by summarizing what we hope to do in the newly formed Department of Medical Humanities of which I am the founder head.

Introduction

There is considerable overlap in the term's sympathy, empathy and compassion. Sympathy is feeling sorry for a person. Empathy refers to the capacity to resonate with others' emotional states or the ability to feel the way the other person feels. This is irrespective of whether it is happiness or sadness. One response in such an instance is 'empathic distress': a strong aversion or dislike to the suffering of others. This is associated with a desire to withdraw from a situation in order to protect oneself from negative feelings. The other response is compassion, a feeling of concern for the other person's suffering accompanied by the motivation to help.

For the purposes of this Convocation Address compassion is defined as a feeling that arises in an individual who witnesses another's suffering and is motivated to help. It has the following four components: (a) Cognitive (an awareness of suffering); (b) Affective (emotionally moved by suffering); (c) Intention (a wish to relieve that suffering) and is then motivated to help the person in distress. There is evidence that these emotions are seen in evolution and probably as old as mammals and birds.

Recent studies using functional MRIs have shown that there are different networks stimulated with these states.

Why do you need compassion in your professional career?

The previous section outlined a biological basis for compassion. What then are the reasons to need compassion in our professional careers? I can think of three main reasons. Firstly, your professional life will require you to constantly interact with people from different walks of life. You will meet people as part of your professional duties, listen to them, speak to them and help them through their difficulties or help guide their lives. This is common to nursing, laboratory technologists, pharmacists and managers alike. Therefore, you will face situations which trigger responses of compassion, sympathy or empathy.

Secondly, if your interactions are compassionate, your patient will feel happier and it increases patient satisfaction, and adherence to

medicine. Furthermore, there are reports of compassion accelerating patient recovery from diseases.

Thirdly, compassion is important for your health. The more compassionate you are, the less burnout there is. All those who scream hatred in the media from whichever side, are destined to be unhappy and die early!

Compassion and the professional

Having introduced these topics, why are we concerned about compassion? The main concern is that studies show a decline in compassion-empathy during professional education. In other words, professional training makes students less humane. This has been shown in numerous studies across different disciplines.

There are several reasons for the decline in empathy or compassion in the medical profession: poor role models, students experiencing bullying by more senior staff, facing ground realities that are counter to idealism we have as students, a high workload, poor psycho-social support, and not knowing how to address empathic distress.

Enhancing compassion

Compassion can be enhanced by yourself and at the institutional level.

Individual level:

At an individual level one needs to overcome empathic distress (and other emotions of failure and helplessness). Functioning as a team and sharing distress and happy emotions with colleagues helps immensely. Non-judgmentally listening to each other's sadness tends to alleviate distress.

The second measure is to reduce the intensity of empathic distress. One could self-reflect and understand one's own emotional reaction and help the patient or the relatives alleviate their distress. It is an attempt to switch towards more action to alleviate suffering (rather than ruminating on their suffering). This is done while acknowledging their pain and distress. This prosocial motivation to help is a feature of compassion which helps to overcome empathic distress.

The third measure is to cultivate self-compassion. Studies on psychological therapists have found that providing compassionate care to others in the absence of self-compassion, leads to increased stress and burnout. These skills can be learnt through training programmes such as Compassionate Mind Training that use contemplative approaches or through meditation-related techniques such as 'loving kindness training', a mental practice carried out in silence that focuses on the cultivation of friendliness towards a series of imagined persons ('Metta' meditation).

Institutional level

At an institutional level, there are several methods proposed to improve empathy-compassion. We in the Department of Medical Humanities have begun to introduce some of these for the first time to our medical curriculum. Some of these maybe relevant to the Open University to consider in their curriculum.

Narrative-Based Learning

The objective is to write a narration or 'a novel' about the patient's life story. The emphasis is not arriving at a diagnosis, but to reflect on the emotions felt by the students. These are explored further in workshop format. The neurological basis of these emotions felt, including empathic distress and compassion are discussed. Students are then introduced to methods of coping with distress and development of compassion.

In this assignment students visit the hospital or clinic in small groups of 5 or 6 students. The idea is to meet a human being who has come for an illness and listen to their story. You should make the person feel at ease, allow them to tell their story, listen to the story with minimal interruption and obtain information of the whole person.

Arts and illness

Artists are considered to be those most sensitive to the humane aspects of our lives. They are able to view and describe lives, events or objects from novel or different angles. Artists have therefore made touching and sensitive contributions to the world of medicine, by describing the humane angle of illness or injury. There are numerous

examples of movies, songs, poetry, novels, short stories and painting that highlight the suffering of persons who are ill. One particular example is the emotional journey of Mr Henry Jayasena, the famous playright who died of cancer of the large bowel. Another is Van Gogh's struggle with mental illness and distress. The students are exposed to this through a lecture and assignments.

Reflection

These include lectures on emotional intelligence and options to follow secular forms of mindfulness training. This is based on the knowledge that mindfulness (and meditation) enables one to become aware of one's emotions and be sensitive to the feelings of others.

Conclusions

In conclusion, once again my congratulations on your academic achievements. In this address I have attempted to highlight the importance of 'compassion' and describe its relevance to professionals. I have shown you that as you advance in your professional career, you run the risk of losing your compassion. However, there is hope, and I have described a few steps we could all take as individuals to enhance compassion in our respective professional life. I have also described how to enhance compassion through the arts, narratives and mindfulness, which may be useful for those developing curricula in the Open University.

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How to Cite: Jayasinghe, S., 2019. The 32nd OUSL General Convocation Address 2019. *OUSL Journal*, 14(1), pp.139–144.

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OUSL Journal

Volume 14, No. 1 – June, 2019

Published Biannually by The Open University of Sri Lanka

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