Original Publication

OPEN ACCESS

Wellness Skills for Medical Learners and Teachers: Perspective Taking and Cognitive Flexibility

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Citation: Houser MM, Worzella G, Burchsted S, Marquez C, Domack T, Acevedo Y. Wellness skills for medical learners and teachers: perspective taking and cognitive flexibility. *MedEdPORTAL*. 2018;14:10674. https://doi.org/10.15766/mep_2374-8265.10674

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Abstract

Introduction: Wellness insufficiency is a widespread problem in medical training programs. Recent evidence reveals that one factor contributing to physician wellness is cognitive flexibility, defined as being able to hold multiple views or to reframe a thought, situation, or perspective. While cognitive flexibility is a neurologically based, teachable skill, there is little guidance as to how to build this skill in learners (and teachers). **Methods:** This workshop introduces the concept and relevance of cognitive flexibility as a wellness skill and then utilizes the novel methodology of reverse role-play through simulated stressful everyday encounters in medical education between teachers and learners. **Results:** This workshop successfully improved cognitive flexibility scores in a sample of 15 family medicine residents, according to measures on the Cognitive Flexibility Scale. **Discussion:** By incorporating cognitive flexibility and perspective-taking skill instruction, this resource has implications for reducing conflict and stress, as well as improving the wellness levels of medical students, residents, and faculty alike.

Keywords

Residency Education, Conflict Resolution, Perspective Taking, Negotiating, Physician Wellness, Interpersonal Communication, Cognitive Flexibility

Educational Objectives

By the end of this session, learners will be able to:

1. Describe the concept of cognitive or psychological flexibility and its relationship to wellness promotion and burnout prevention.
2. Apply role reversal as a technique to imagine the other person's perspective (thoughts and emotions) and verify the accuracy of their own hypotheses.
3. Incorporate this perspective-taking technique to improve interpersonal communication between peers, supervisors, and other team members.

Introduction

Background

Burnout is a widespread, well-established problem in medical training programs,¹ with reported rates ranging from 52% to 75% of residents.²⁻⁶ Rates of physician burnout are higher than in the U.S. population of nonphysicians and are highest in frontline specialties such as primary care.⁷ Burnout has broadly negative, even disastrous, implications both professionally and personally.⁴ And what of physician wellness? Wellness is more than just balance or the absence of burnout.^{8,9} In a large study of family physicians, Eckleberry-Hunt and colleagues identified three factors contributing to physician wellness: career purpose, distress (reduction), and cognitive flexibility.^{9,10} Cognitive or psychological flexibility—that is, being able to hold multiple views or to change or reframe a thought, situation, or perspective¹¹—is associated with lower burnout and myriad indicators of psychological health. These include empathy, job satisfaction, and resiliency.^{12,13} In addition to its relationship to psychological health, cognitive flexibility is well described in the industrial-organizational and management literature because of its implications for

Appendices

- A. Resident & Faculty Workshop Facilitators Guide.doc
- B. Workshop Slides.ppt
- C. Resident & Faculty Workshop Videos folder
- D. Resident & Faculty Workshop Case Vignettes .doc
- E. Participant Instructions.doc
- F. Intern Orientation Workshop Facilitators Guide.doc
- G. Intern Orientation Workshop Case Vignettes .doc

All appendices are peer reviewed as integral parts of the Original Publication.

conflict resolution, team dynamics, and interpersonal effectiveness.¹⁴ Those with higher cognitive flexibility skills can attend more intentionally to their environment, be less reactive, and make better choices.¹⁵

As it turns out, cognitive flexibility is a neurologically based skill¹⁶ that can be taught. Given the obvious implications for problem solving and conflict resolution skills in daily clinical practice,¹⁷ educational settings, and personal life interactions, we believe that this is a skill that should be taught to medical learners—and their teachers. The question is, how? While many wellness curricula incorporate essential skills such as mindfulness, self-care, and reflection, there has been less guidance for programs looking to incorporate the evidence-based skill of cognitive flexibility. There are no *MedEdPORTAL* publications addressing how to concretely teach cognitive flexibility skills.

We have developed an interactive and engaging approach to teaching this important skill, utilizing a novel methodology of reverse role-play, meaning practicing trying on the perspective of another rather than simulating one's own perspective. Reverse role-play is an effective psychotherapy technique aimed at building insight into alternate perspectives and developing awareness of how other people may think, feel, and interpret one's own behavior.^{18,19} In our curriculum, we use the reverse role-play technique to work through case vignettes that simulate commonly stressful experiences in medical education. The role-reversal technique moves beyond mere reflective discussion, specifically cuing the participant to try on alternative ways of thinking. We use this approach with family medicine residents and faculty to teach and practice a concrete, evidence-based skill that complements other components of wellness curricula (e.g., mindfulness, self-care, nutrition, exercise, support, etc.).

Target Audience

Our model for teaching reframing and perspective-taking skills is easy to learn and can be replicated by any medical training program that is developing its own wellness curricula. The concepts require basic communication and reflection skills and no particular prior experience. The target audience for the Perspective-Taking Skills for Residents & Faculty workshop is specifically a mixed audience of residents and faculty. The Pilot: Intern Orientation Workshop is intended for the target audience of medical interns. However, either workshop can be used with any target population, such as medical students and staff, if alternate case vignettes are adapted for perceived relevance to the audience.

Cognitive Flexibility Workshop Development

Beginning in 2015, the Middlesex Family Medicine Residency Program implemented a comprehensive Burnout Prevention and Wellness Promotion Curriculum, consisting of burnout prevention education, wellness skills workshops, support resources, and assessment. While selecting evidence-based practical wellness skills to incorporate into this curriculum, we recognized that although cognitive flexibility was a wellness skill informed by the literature, there was little guidance on how to teach this skill to medical learners. It also became clear that this was a skill lacking in our population. Preliminary needs assessment of our residents revealed baseline wellness scores that were particularly low in cognitive flexibility. Similarly, we identified poor cognitive flexibility in a sample of medical students at an affiliated medical school. Given the aforementioned associations between cognitive flexibility and wellness, along with the needs assessment results, we were inspired to develop a method for improving this skill.

We first implemented a variation of Martinelli, Bass, Zakrajsek, and Mayer's workshop on intergenerational tensions.²⁰ A qualitative assessment revealed that residents and faculty fundamentally struggled with understanding one another's perspective, while appreciating the opportunity to do so. Participants reported, however, that merely discussing challenging scenarios did not change behavior. Moreover, available training cases were not relatable enough to approximate daily clinical practice and training.

Therefore, we wrote new case vignettes based on the particular challenges reported by residents and faculty. We then worked through the cases in dyads, utilizing role reversal as our novel methodology.

In traditional role-plays, participants simulate and represent their own views, but in role reversal, one must imagine another person's perspectives, thoughts, feelings, and behavioral interpretations. For example, a resident must imagine how a faculty member may think and feel, and vice versa. We ask participants to hypothesize their impressions, verify whether they are correct, and then receive feedback on their performance. While seemingly a commonsense approach to interpersonal communication and relating to others, this process is often forgotten, particularly under stressful conditions—and is at the heart of many interpersonal conflicts. By teaching participants to imagine another person's world view through a structured approach ("How is the other person thinking, feeling, and perceiving you?") and prompting deliberate practice of this approach in a training environment, we discovered that participants often applied this structure to their real-life conflicts.

We first designed a brief pilot workshop for interns, facilitated by chief residents, with cases written to help new interns work through clearly anticipatable upcoming stressors common to intern year. We did not have the foresight to collect data on this pilot/proof-of-concept workshop, but given the positive feedback within our local institution and at a national academic meeting,²¹ we used the pilot to inform multiple iterations of the final workshop product for residents and faculty. Participants in preliminary, informal, small workshops for residents and clinical office staff, such as front-desk staff and nurses, found it helpful to take a step back and appreciate the perspective of someone in a different role from their own. After a brief follow-up period, pre- and postassessments of clinical staff cognitive flexibility showed a small trend toward improvement within a week of the workshop.

Ultimately, we improved upon these previous iterations by incorporating video clips to better facilitate audience engagement through humor, by expanding the target audience to include not only residents but faculty, and by developing a rigorous evaluation process. The expanded workshop with video clips was presented for constructive feedback at two academic meetings.^{22,23}

Here we share not only our original Pilot: Intern Orientation Workshop but the comprehensive Perspective-Taking Skills Workshop for Residents & Faculty (hereafter, Residents & Faculty Workshop). Both consist of a brief lecture introducing the concept of cognitive flexibility and its application to wellness, interpersonal communication, and conflict resolution, followed by cases with immediate application of role-reversal skills to practice thinking more flexibly.

Methods

The Middlesex Family Medicine Residency Program is a 4-year, single-institution, community-based, residency program located in Middletown, Connecticut, with 25 residents and 14 core faculty. We conducted a series of workshops, which took place July 2015 through September 2016, to teach cognitive/psychological flexibility skills. Seven residents participated in the Pilot: Intern Orientation Workshop. Twenty residents, nine faculty, and two administrators participated in the Residents & Faculty Workshop. We assessed qualitative and quantitative indicators of cognitive flexibility of residents before and after the Residents & Faculty Workshop.

Educational Approach

Both the Residents & Faculty Workshop and Pilot: Intern Orientation Workshop were case based and utilized facilitated small-group workshops as our primary delivery system. This provided the opportunity for all participants to acquire hands-on practical experience with this new skill. In addition to teaching cognitive flexibility and perspective-taking skills, the Residents & Faculty Workshop was intended to spark dialogue, enhance reflection, and improve resident-faculty communication skills.

Prior to completing our workshops, participants had already had an introduction to burnout (i.e., definition, importance/implications of, signs/symptoms, how to recognize and intervene), as that material was outside the scope of the workshop curriculum. The materials included within the workshops, while providing a scaffold on which to anchor new knowledge about how the skill of cognitive flexibility fits into burnout and

wellness as a whole (i.e., cognitive flexibility is a specific wellness skill), made only brief references to these constructs.

Overview of Workshops

The Residents & Faculty Workshop was developed for a mixed group of residents, faculty, rotating medical students, and administrators. After we presented a brief introduction to the large group of attendees, the majority of the workshop consisted of facilitated small breakout groups working through case vignettes that simulated common stressful encounters in medical education between faculty and residents, senior and junior residents, resident peers, and resident-interprofessional colleagues. Themes included supervisory strain, generational clashes, electronic communication, giving and receiving feedback, and other interpersonal communication challenges. Each case was introduced with a brief video prompt, as a mechanism for facilitating engagement. Each small group had a facilitator trained by use of the facilitator guide (Appendix A) in the role-reversal methodology.

The Pilot: Intern Orientation Workshop (30 minutes in duration) was developed specifically for use with incoming PGY-1 residents during orientation each July. In our program, the workshop was led by chief residents and behavioral health faculty, and delivered to a small group of first-year residents ($n = 7$). Three case vignettes were prepared specifically to address common challenges as perceived by new residents, involving conflicts with peers, senior residents, and attending supervisors. This was intended to teach new residents to cope ahead with specific inevitable conflicts expected to arise within their first months of residency and to teach the concept of seeking the other's perspective in the setting of conflict.

Details of each workshop, as well as preparation and setup recommendations, are described below.

Residents & Faculty Workshop

In this 60-minute workshop for residents and faculty, a PowerPoint presentation (Appendix B) was used to briefly introduce attendees to the background literature on cognitive flexibility and its relevance to burnout prevention, wellness, and other measures of psychological health. The reverse role-play methodology was then introduced to teach and practice in facilitated small groups.

Next, we presented five homegrown brief video clips (Appendix C) to introduce cases (Appendix D), which covered a broad array of common tensions in medical education encounters between teachers/learners, peers, and interdisciplinary colleagues. This strategy was adapted from Martinelli, Bass, Zakrajsek, and Mayer's workshop on intergenerational tensions.²⁰ Themes included impression management, interprofessional dynamics, supervisory strain, technology clashes, and feedback challenges, amongst others. These cases were selected based on relevance to a particular audience. Each video clip can be locally embedded into the PowerPoint file (Appendix B) in order to lead into the reverse role-plays.

After a video clip had been shown, each facilitated small group chose a dyad to play the lead roles. Each member of the dyad was provided with a vignette that described his or her own character's thoughts and feelings about the scenario (Appendix D). Then, using the prompts in the facilitator's guide (Appendix A), the facilitator prompted each participant to engage in role reversal to imagine the other person's perspectives, thoughts, feelings, behavioral interpretations, and so on (i.e., a resident imagined how faculty might think and feel, and vice versa). Impressions were hypothesized, verified, and subject to feedback from the group. After each case, one or two small groups reported out to the larger group. After all the cases, participants engaged in a write-pair-share activity in order to promote recall of and elaboration on these role-reversal skills.

Preparation for Residents & Faculty Workshop: Depending on group size and number of facilitators available, this workshop can be delivered as one facilitated group or in several facilitated small breakout groups. If small groups are utilized, we recommend that each group have its own facilitator. Small-group composition should be mixed so as to include at least residents and faculty; if students, administrators, or others are present, they should also be evenly dispersed among the small groups. If there are insufficient

numbers of facilitators or if small groups are not able to include both residents and faculty at least, the cases can be reverse-role-played by one dyad at the front of the room instead. This arrangement allows participants to play their usual role (i.e., a faculty participant should play the faculty character in each case; residents should play resident characters) and then try on the perspective of their unusual role.

- Required: Secure AV equipment—computer and projector for PowerPoint slides with embedded videos.
- Identify as many facilitators as there are expected number of small groups; request facilitators review the facilitator guide (Appendix A).
- Set four to six chairs up for each small group in advance. Please see above regarding suggested small-group composition.
- Print copies of Residents & Faculty Workshop Case Vignettes (Appendix D).
- Prepare one version per small group of each vignette separated in half, so that each actor is provided with only his or her own character's perspective.
- Optional: Print the Participant Instructions (Appendix E)—these are covered in Appendix B slides and may not be necessary.
- Optional: Provide index cards for postworkshop reflection (and qualitative data collection).

Please note that while we utilized two standardized instruments, the Cognitive Flexibility Scale (CFS)^{11,24} and the Physician Wellness Inventory Cognitive Flexibility subscale (PWI-CF)^{10,25} to evaluate the Residents & Faculty Workshop during its development, we do not consider utilization of these instruments to be useful to participants. We recommend distributing comment cards for qualitative input. If users are interested in accessing the standardized instruments, links to them are available in the References.^{24,25}

Pilot: Intern Orientation Workshop

This 30-minute workshop was a subcomponent of a separate 90-minute introductory lecture on burnout prevention and wellness skills. During this other presentation, interns were introduced to the three components of physician wellness: career purpose, distress reduction, and cognitive flexibility. As a refresher, they were presented with Slides 1-10 (Appendix B).

As our intern class was small ($n = 7$), the interactive exercise was done together as a group, facilitated by a chief resident following the facilitator's guide (Appendix F). For each of the three cases described in Appendix G, two actors were selected to come to the front of the room and engage in a reverse role-play activity between two characters in front of the remaining audience. Each actor was provided with one character's version of the vignette to read silently prior to the activity. The remaining audience was provided with a complete version of the vignette, demonstrating both characters' perspectives.

Preparation for Pilot: Intern Orientation Workshop:

- Optional: Secure AV equipment—computer and projector for PowerPoint slides if desired. Use of the PowerPoint is optional for this workshop.
- Identify a facilitator, that is, a senior resident or chief resident; request that the facilitator review the facilitator guide (Appendix F).
- Print copies of the Appendix G vignettes for the audience (and the Appendix E participant instruction sheet if desired).
- Prepare one copy of each Appendix G vignette cut in half with a scissors, so that each actor is provided with only his or her own character's perspective (Actor A vs. Actor B).

Results

Residents & Faculty Workshop

Quantitative and qualitative data were collected following one installment of the Residents & Faculty Workshop, which was presented to 20 residents (PGY-1 $n = 7$, PGY-2 $n = 6$, PGY-3 $n = 3$, and PGY-4 $n = 4$),

eight family medicine faculty, one behavioral science faculty, and two administrators. Fifteen residents completed pre- and postworkshop quantitative measures. Twenty residents provided qualitative data. Faculty were not assessed. Data were not collected from the Pilot: Intern Orientation Workshop, as this was delivered to a small group of residents ($n = 7$) as a simple pilot that informed the development of the Residents & Faculty Workshop.

Quantitative data: Six weeks prior to this workshop, baseline assessment of residents' cognitive flexibility was obtained ($n = 18$). The primary outcome was measured by the CFS, a 12-item validated self-report instrument for this construct.¹¹ The secondary outcome was wellness, evaluated utilizing the PWI-CF.¹⁰ Postintervention measures were obtained 3 months after the workshop ($n = 15$).

Previous literature reported the normative mean measure on the CFS as 55; below this is considered low cognitive flexibility. The CFS's highest possible score is 72. On the PWI-CF, reference sample scores ranged from 3.79-4.71, with the highest possible score being 5.

On the CFS, the preworkshop mean cognitive flexibility score in our sample was 56.55. The postintervention CFS mean score was 61.00. On the PWI-CF, the preworkshop mean score was 4.34, with a postintervention mean score of 4.46. Because of small sample size and only being able to compare to a normative reference sample, we can state only that our data support a trend of improvement in cognitive flexibility.

Qualitative data: Postworkshop comment cards were collected. Content analysis revealed the following themes, with selected examples noted:

- Openness to considering alternate perspectives:
 - "I can now think about and try on more to the faculty (or residents') perspective."
 - "I am going to resist making assumptions. . . ."
- Description of barriers to maintaining flexible thinking:
 - "It's hard to inhibit the urge to (react) and say how you are feeling first, and instead (to pause) and think about the other person's perspective."
- Development of insight into perspective-taking deficiency:
 - "I realized today how negative . . . some of my behaviors can be seen and interpreted sometimes."
- Acknowledgment that flexible thinking is useful:
 - ". . . there is always more than one way to see the world."

Discussion

Although it is always challenging to think flexibly under conditions of stress, we found that our methodology made a difference for learners and teachers alike in terms of providing a structured approach to better understanding others' perspectives. While quantitative measures of cognitive flexibility suggest that this workshop contributed to improvement, the qualitative reports were, perhaps, more striking. Participants reflected that our approach was a fun way to engage in these important issues and work through challenges they found stressful in both everyday life and medical education.

Strengths and Lessons Learned

What made this workshop successful for us? First, we used realistic, ambiguous cases that closely approximated everyday stressful encounters in medical education. We wrote cases based on feedback from residents and faculty about the typical scenarios they found most stressful. We recommend that those attempting to replicate this curriculum adapt our cases in order to optimize relevance to their target audience. We filmed our video clips with an ordinary smartphone, edited by one of us who had no video-editing experience. Audience feedback on the video clips was that they were an engaging, humorous way to introduce each case; however, if cases need to be adapted to meet the needs of other audiences, we

recommend filming one's own (low-budget) clips or forgoing them altogether. Case relevance is more important than a few minutes' worth of video clips.

Second, we learned early on that role reversal was very difficult for many participants because most were well acquainted with traditional role-play—representing one's own character's views—and therefore, success required very specific, facilitated prompting. Displaying the specific prompts on the projector screen during the exercise was also helpful. One of the key tasks of the facilitator was to guide participants through the prompts (e.g., "What may the other person be thinking in this situation?") and to redirect participants' instinctive attempts to respond with their own character's view. Using the structured, verbatim facilitator guidelines we have provided was very helpful for keeping audiences on track. However, for this reason, we recommend that the workshop be delivered only with as many small groups as there are available facilitators. For this particular methodology, a facilitated demonstration in front of a large group is more effective than underfacilitated small-group breakouts. For example, if there is only one facilitator, even a group of 130 should have only one dyad interacting at the front of the room. If there are multiple facilitators available, small breakout groups can be utilized. This is when reverse role-play is most effective. It is also helpful for the participants to be playing their own usual role (e.g., a resident participant should play the resident character in the vignette) so that they have to imagine the perspective of the person in the other role. For example, it is not useful for a resident to play the faculty character who is then tasked with imagining the perspective of a resident. That would be too easy.

One unexpected success of our initiative was that the process of creating the workshop was exceptionally effective at teaching cognitive flexibility skills. We involved eight residents and six faculty unaffiliated with the project in the process of case selection, scriptwriting, and filming of video clips. This meant that approximately 50% of the people in our program were involved in the preparation of this workshop, which served to further engage our target population even before the workshop and to generate hype and attention from the rest of the anticipated audience. Our video-clip actors in particular reflected that this aspect of participation reinforced the concepts we were attempting to instill through the workshop.

Limitations

Our homegrown video clips were mildly challenging to produce, given the lack of audiovisual expertise on our research team and lack of funding. While our amateur video clips may not come across as particularly polished, their accessibility and the projection that anyone can do this may inspire others to write their own cases and film their own videos adapted to their target audience.

The biggest challenge, however, was in the evaluation—though the workshop reached broad audiences, only a small sample size of 15 residents participated in the quantitative data collection (administered separately via online survey). We did not utilize a formal immediate program evaluation, which could have been administered to the 20 residents and nine faculty who participated. Moreover, the postworkshop measures took place only a few months later; therefore, the duration of the effect is unknown. In retrospect, we could have gathered concrete qualitative data from the residents and faculty who were involved in the development of the project (as case writers and video actors). Anecdotally, many commented that this was an instructive experience, but we did not have the foresight to collect data about this unexpected success in professional development. In the future, in addition to assessing objective measures of cognitive flexibility, surveys could be distributed to participants a few weeks to months after the workshop to gauge whether and how they have applied the workshop's approaches to real life—and whether they have perceived any change to the emotional impact of stressful interpersonal encounters by doing so. Specifically, such a survey could be considered to measure not only skill acquisition but behavior change and satisfaction with interpersonal interactions.

It should be noted again that the Pilot: Intern Orientation Workshop was not evaluated. It was the original conception of our methodology, delivered to only a small group of seven interns. At the time, it was intended to be a onetime event for a very small group; had we known that we would later decide to adapt

this concept in a structured, measured way, we would have collected at least qualitative data. Instead, we moved on to create the more comprehensive workshop not only for residents but also for faculty, to elaborate upon the concept to include engaging video prompts and structured facilitator guides, and, of course, to rigorously evaluate its efficacy. We include the Pilot: Intern Orientation Workshop in this curriculum because of its utility to the dedicated target audience of new interns (a high-risk population for burnout and wellness deficiency) and because it is a simplified version of the methodology for *MedEdPORTAL* users to take and adapt to their own target audience. Videos truly are not necessary for medical learners (and teachers) to engage in reverse role-play. We acknowledge, however, that the Pilot: Intern Orientation Workshop has not been evaluated for efficacy (as the Residents & Faculty Workshop has been). Still, it is available here for use and adaptation if a brief skills workshop targeted at interns is desired.

Summary

Introducing medical learners (and teachers) to these reframing and perspective-taking skills (i.e., cognitive flexibility) is an essential component of a wellness curriculum, and this model has been shown to effectively enhance participants' cognitive flexibility skills. This workshop can be easily integrated into any medical training program's wellness curriculum and adapted to any number of target audiences.

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Acknowledgments

The authors wish to thank Vickie Lingswiler, PhD, Alan Douglass, MD, Kathleen Tardif, and the Middlesex Hospital Family Medicine Residency Program Burnout Prevention Task Force for their thoughtful and constructive input into this curriculum's development. We also thank Todd Zakrajsek, PhD, and the staff of the Society of Teachers of Family Medicine Medical Student Educators Development Institute for assistance with our needs assessment.

Disclosures

None to report.

Funding/Support

None to report.

Informed Consent

All identifiable persons in this resource have granted their permission.

Prior Presentations

Houser MM, Worzella G, Domack T, Marquez C, Acevedo Y. "Try it on": cognitive flexibility & perspective-taking skills to enhance wellness in medical learners & teachers. Presented at: Society of Teachers of Family Medicine 50th Annual Spring Conference; May 7, 2017; San Diego, CA.

Houser MM, Worzella G, Domack T, Marquez C, Burchsted S, Acevedo Y. "Try it on": perspective-taking skills to reduce conflict & enhance wellness. Presented at: Family Medicine Education Consortium Northeast Regional Meeting; October 29, 2016; Pittsburgh, PA.

Worzella G, Houser MM, Marcello K, Kazakoff M. Burnout prevention, wellness promotion and resiliency development: a residency pilot curriculum. Presented at: Society of Teachers of Family Medicine 49th Annual Spring Conference; May 2, 2016; Minneapolis, MN.

Ethical Approval

Middlesex Hospital Institutional Review Board approved this study.

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Received: June 8, 2017 | **Accepted:** January 8, 2018 | **Published:** January 26, 2018