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Teaching as collaborative educational practice: A case for incorporating learner expectations and experiences

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Abstract: The present paper reflects on the nature of teacher-learner interactions. It posits that this interaction is characterized by two distinct and co-existent realities; namely that of the teacher and of the learner. Whereas these realities are not necessarily antithetical, rarely in the practice of education these are two identical. It is asserted that traditionally the teacher's view has dominated educational interventions and classroom practices thereby excluding the learner's reality(ies) from the process of teaching-learning. As a remedy, the paper argues for collaborative educational practice, which gives primacy to and is consistently informed by learner expectations and experiences. Towards this end, the paper highlights the importance of collaborative objective constructions, promoting meta-cognitive abilities in the learners and practicing collaborative evaluation. The paper concludes by suggesting that collaborative educational practice cannot be left to the discretion of a few reflective teachers and should much rather be made the norm than exception.

Keywords: Collaborative educational practice, Learner expectations, Learner consultation, Collaborative evaluation

Introduction

If I had one wish for all our institutions,
and the institution called school in particular,
it is that we dedicate ourselves to allowing them to be,
what they would naturally become...
living beings who continually ask the question:
Why am I here? What is going on in my world?
How might I and we best contribute?

(Senge, 2000a)

What is true for schools in particular is true for educational system of a country in general. Traditionally, the dominant theme in educational systems has been *dominance* and *control*. The theme of dominance stems from allegiance to an ideology and requires a potentially subservient entity for its accomplishment. As education is inextricably intertwined with overt and covert issues of ideology, the themes of dominance, control

and ideology have been discussed to great lengths in educational systems. Sociologists vehemently; and more often than not, justifiably refer to education as a tool of *acculturation*. Educationists justifiably keep re-raising the questions of *whose knowledge and for whom?*

The existence of the themes of control and dominance of and in education can be sensed at all levels; beginning with the policy drafters and curriculum framers down to school administration and the individual teacher in her classroom. While at other levels there might be a whiff of struggles for seizing and maintaining power, the classrooms have traditionally shown unquestioned acceptance of the dominant side.

Teacher-Learner Relationships: Illustrating Dominance and Subservience

The *silent and ritual-like subservience* of learners has over centuries become a legitimate right of teachers. Of course, the subservience of learners may be attributed to several factors; both cultural and psychological. The cultural dimension in most cases revolves around the reverence for knowledge and is easier to explain.

For example, in India a teacher has traditionally been revered as a *Guru*; literally meaning *the heavy one*. The term *heavy* symbolizes the weight of knowledge, experience and reflections of the mind. Being a *Guru* was seen to be a noble occupation as he was willing to selflessly share the fruits of a lifelong pursuit of knowledge with his disciples (Mishra, 2015). Such a teacher deserved the unwavering reverence of his learners. As a result, subservience of mind and word were manifestations of this reverence. The archetypical image of the *Krishna* of the *Bhagavad Gita* as the *Guru* to the bewildered and despondent warrior prince *Arjuna* who is seized in the clutches of dejection and ignorance, is a worthwhile image to quote here.

Whether or not, in the present day and age, the teachers continue to epitomize the pursuit of knowledge and selflessness, the emotion of reverence has come to be associated with teaching as a profession in India. For the Indian learner, subservience is largely a historic-cultural and sometimes socio-religious legacy. By corollary, it is a legitimate expectation for the teacher. Clearly then, overcoming it for either of them requires unlearning of a historical-cultural archetype.

To believe however that the subservience is only cultural may be an act of *naïveté*. There exist a host of socio-psychological reasons behind the existence or absence of such subservience. To illustrate: the recent trends as witnessed in India are as follow:

The idea of subservience is conspicuously present in kindergarten and primary classes across India and in the higher grades in rural schools or hamlet towns. In Indian metropolitan cities and especially within the higher grade classrooms comprising of adolescent learners, the teachers are finding it increasingly difficult to adjust to the 'era of conditional acceptance'. The adolescent school-goers are increasingly making it clear that respect and reverence cannot be demanded as a matter of right but are to be commanded by worthy actions (Goel, 2015). The same is even more evident in higher education across the country.

Given the inherent contrast in the above two images, how does one explain this selective following of the historical prescriptions on teacher reverence? The answers are to be found in at least two distinct socio-psychological phenomena in the changing India; Firstly, India is fast moving towards becoming a knowledge society, there is however a gestation period before the fruits of such knowledge boom fully and irreversibly reach the remote hamlets or villages.

In the metropolitans, the effects of this knowledge influx are evident. The technology driven, well-read, aware metropolitan parent has awakened to numerous alternative sources of knowledge which reduce the premium on teacher-driven instruction. As the teacher, in this case is no longer in possession of a unique, premium 'commodity' (new knowledge), the need to give her/his a upper hand does not arise socially. On the other hand the rural as well as small town India, (if for a moment we can consider it as a unit), continues to consider teachers as the primary source of knowledge for their children and the reverence thus continues to be shown and subservience continues to be enjoyed.

Secondly, the *Indian adolescence* as an age and stage has also come into its own in larger cities. The much discussed traits of being critical of all forms of authority, unabashed criticism of non-functioning systems, the need for having a voice and being in control in matters related to one's life are all pretty evident in the way the adolescent school goers have been treating their teachers. Interestingly, the high school learner in rural India experiences a relatively toned down version of adolescence. Literature on the experience of adolescence in India has regularly thrown up evidence confirming this divide. As a result, subservience can continue to be a reality in village and small town high schools. (Gopal and Kohli, 2015)

For an Educator, such an appraisal of subservience is relevant since it has implications for the control-dominance patterns in a classroom. Whether *assumed* or *forced*, subservience tends to result into a totalitarian regime in the class thereby suppressing learner's voice and agency.

Addressing Subservience: The Trend So Far

In the last century considerable work has been done in the area of teacher-learner relationships (Bronfenbrenner & Morris, 1998, Baker, Grant and Morlock, 2008). The twentieth century has seen some paradigmatic shifts in the area marked to denote the extent of teacher's role and authority. These shifts have resulted from two separate but non-exclusive research interest areas, namely: 'school effectiveness' and 'learner voices' (Ranson, 2000; West, 2004; Flecher, 2005).

Studies on 'school effectiveness' were getting conducted in as early as 1960s and after initial hiccups the findings of these studies corroborated the belief that teacher attitudes were a prime contributor to school effectiveness. This paved way for re-thinking and attempting to balance the 'control and dominance' equations.

Later studies explicitly revealed that classroom effectiveness can have greater influence than school as a whole (Creemers, 1994). This was a remarkable finding as it allayed the fear of hardworking teachers about them being just 'one cog in the wheel' and thus unable to bring about a huge difference. Such studies gave further impetus to discussions on the 'classroom teacher'. Similar themes emerged from studies on 'learner voices'. Tremendous work was done in this area in 1960s and 1970s with the aim of eliciting and valuing learners' accounts of experiences. Follow-up studies in 1990s identified key characteristics of 'effective teachers' and 'effective schools' (MacGilchrist, Myers and Reed, 2004). A common finding across these research contexts and efforts was the existence of 'shared vision and goals' as a key characteristic of effective educational encounters while addressing the issues of 'control and dominance'.

The key implication that emerged from these researches was 'consultation' (in addition to 'participation'). Consultation was seen as discussing with learners issues that mattered to them in teaching-learning within the class and the larger process of being educated in the school. The major areas of consultations were 'school-wide issues' and 'issues in their class.' (TLRP, 2003)

In the light of the above developments, the present paper posits that given the sheer corpus of supporting research and discourse, it is common sense that learners' voices be heard through continuous consultations. The discussion is no more to focus on whether consultation is the right path. Research since 1970s has repeatedly and decisively proven that it is the way to go. The discussion now needs to focus on the scale and scope of consultation.

Thus, it is the submission of the author that whereas globally a beginning has been made in the practice of learner consultation, the areas chosen to practice consultation significantly restrict the potential for a transformative change in educational practice. The author proposes that the intent and process of learner consultations must begin from the very stage of vision statement and goal identification for an educational intervention. It is indeed accepted that in the absence of sufficient precedence, this may seem non-feasible and arduous for the school as a whole. However, a ray of hope can undoubtedly be found in the suggestion that, nothing stops individual teachers to adopt it as a policy as well as a practice in their respective classrooms.

Practicing Learner Consultation

Vision and goal are critical to all educational endeavours. To have a vision is akin to have a plot of land on which to lay the foundation of the educational effort/programme. The goal, in this sense, is akin to the floor plan. All our construction efforts are geared to model the building on this floor plan, to achieve a perfect representation of this plan through sustained, concerted and coherent efforts.

The vision and goal dyad derive their criticality from being indispensable to and omnipresent through the educational interventions. They provide a blueprint for constant referencing. They ensure that the nature and purpose of task(s) on hand are un-

ambiguously understood by all stakeholders concerned. If it is so, then it is imperative that such stakeholders have a voice in formulation of such vision statement as well as in the determination of goals. As ethical, appealing and obvious it may sound, its occurrence is far too rare.

At a micro level, the major decisions in a school are taken by the school management and administrative heads who think more as managers and administrators than as educationists. The 'lowest' rung is the classrooms wherein the teacher multi-tasks with managerial-administrative and academic acumen all rolled into one superman/ superwoman. As is understandable, such multi-tasking leaves her with little time to engage in *in-class consultations* with her learners. It is ironic that whereas the belief among educationists is that in education just as in politics the last rung is the most important, i.e. in education, the learner is paramount, yet at all the above levels, goals either filter down as it is from the level higher up or are set in consultation with people at the same level with rare and sparse representation from the level below. It is startling that being paramount does not count!

To illustrate: it is far more believable that a couple of teachers teaching different sections of the same grade would get together and discuss the selection and pacing of content, administering of evaluation-focused assignments to respective sections and so on to ensure parity in teaching. Consultation, as is evident, is being done at the same level to arrive at 'common plan for different sections'. It is difficult however, to imagine, that learner representation would also be present at such intra-grade, inter-sections academic meet. It defies commonsense to believe something like this. Common sense is a product of observation and experience and sadly, in this case, one's inability to believe the second scenario is an indicator of the rarity of such occurrences.

To counter this rarity of occurrence, the habit of consultations is to be cultivated for the teacher and the learner alike. Every new mechanism needs a period of trails, pilots and ongoing adaptations. The same is true for the practice of authentic consultation. As much as it may challenge a teacher's academic and pedagogical strengths as also her/his psychological resolve and belief systems, it is no less challenging for the learners involved. To be held equally responsible for what does or does not happen in an academic year, to be open to partake equal credit or criticisms of innovations gone right/wrong and to be pushed out of one's comfort zone as a passive recipient of information may tax one's adaptive resources considerably in the initial years.

Thus, the best bet is to begin with consultations about the idea of consultation itself. Together the teacher and her/his class can identify the areas which they are mutually open to consult on initially. This very discussion incidentally would set the wheel rolling as the first act of consultation, thus serving the purpose of ice-breaking and psychological warming up to the idea.

Reflective practitioners do consult their learners on the *usual* areas vis. content, pedagogic practices, innovative assignments, discipline etc. Though extremely important, these consultations lack on two accounts:

Firstly, these consultations are done as a collective and mirror the needs and preferences of the larger group and not individuals.

Secondly, the nature of the topics being discussed is such that it does not invoke the opportunities of 'learning through consultation'. Consultations must cognize the individual learner's expectations from the educational processes. Further the process of consultation by itself must throw some light on the strengths and constraints of an individual learner thus presenting an opportunity to learn and grow at the same time. What is needed over and above collective consultations on the usual themes is extensive consultations with individual learners with respect to the following critical themes:

- learner expectations and experiences,
- formulating learning (as against instructional) objectives,
- moving towards meta-learning, and
- collaborative evaluation procedures.

The subsequent sections deal with each of them in detail.

i) Learner expectations and experiences

No two learners are similar; they are marked be a variety of differences. Many of these differences are conspicuous, such as gender, class, culture and language. Interestingly, these are also essentially social differences. Others like learning styles, learning/performance orientation and intelligence are more subtle and are a product of individuals' personality rather than having socio-cultural beginnings. Such differences need deliberate and consistent perusal and are visible only to the discerning observer. It is important to note here that such subtle or non-evident differences often have a greater impact on learning. Whereas socio-cultural differences like gender or linguistic facility may be reflected in the choice of subjects/options favoured stereotypically by a learner in the differences in her/his learning styles, orientations etc, influence the very approach with which such subjects would be pursued all through the year. For a teacher, looking forward to effective classroom interactions, it thus, becomes mandatory to have knowledge about these cognitive differences of the learners concerned. These differences would not only shape the expectations the learners have from an educational interaction but also would determine how he/she experiences the interaction when it happens.

To illustrate; field dependent learners expect to be taught with a greater degree of context embedded-ness, whereas field independent learners prefer that unnecessary appendage be avoided. Field independent learners value concepts for their own sake. It must be made clear here that neither of the two approaches is advantageous. Yet for a teacher to reach out to a learner both academically and personally, such preference for learning styles are to be discussed in greater details. It is important to

consult learners in order to present them with an opportunity to learn in a way that helps them access the curriculum.

Similarly, learners with a performance orientation define achievement very differently from those with a learning orientation. As a result, their expectations from the class are markedly different from their peers. There is a consensus among educationists that performance orientation is essentially a negative orientation and needs to be discouraged (Watkins, 2002). A pre-condition to this intervention is that the teacher is aware of her learners orientation. Such awareness is easy to come by if a discussion on the meaning of achievement and learning is initiated by the teacher. Such learners' narratives can be taken as a valid and potent source of information about them and can be used for both feedback and intervention purposes.

Finally, the teachers need to indulge in extensive consultations about the concepts of intelligence as it is understood by most of the children in its restrictive sense as used by the family and society at large. Most literate societies tend to value and equate factual, analytical and numerate intelligences with academic success. As is reflected in the works of Gardener (1999), the other facets of intelligence are equally critical to our survival. The teacher must thus make the learners reflect not on 'how smart are you' but on 'in what ways are you smart'? Such discussions not only help build the self-esteem of all and sundry (including the teacher herself/himself) but also help the traditionally 'intelligent/unintelligent' learners to appreciate the forms of intelligence exhibited by their peers.

It is worth noticing that in each of the above discussions, the learner learns something about herself by being part of the consultation process. Assuming that both the learner and the teacher have been able to learn something important about the learners' abilities, and cognitive styles, the next round of consultations is to focus on designing mutually agreed upon learning goals.

ii) Formulating learning goals

At the outset, it is important to differentiate between the much used term instructional objective and the much desirable 'learning objective'. It is as simple and as interesting as this:

a) *a teacher with performance orientation designs instructional objectives;*
b) *a teacher with learning orientation favours learning objectives*

Instructional objectives are about instruction. Instruction demands that there exists an instructor and a recipient of instructions. This translates effortlessly into a situation where one knows and the other does not. This assumed hierarchy is reflected in all major works of instructional objectives since 1960s.

Let us consider the following definitions:

- *Instructional objectives are specific,* **measurable, short-term**, *observable learner behaviours.*
- *An objective is a description of a* **performance you want** *learners to be able to exhibit* **before you consider them competent**.
- *The instructional objectives of a lesson plan describe the* **author's educational intent for the learners** - *that is, the desired learning outcomes.*

The highlighted phrases exemplify the structure of dominance and control subsumed in instructional objectives. The trouble with teachers convinced of the merit of instructional objectives and instruction is that for them learning equals performance.

Social learning theorists have most vehemently criticized this view. So have constructivists. More recently developmental psychologist Carol Dwecks' work has suggested that performance and learning are two different motivational purposes (Dweck, 1999). Learning as a concept has enough merit to be prioritized over performance. Let us consider the following definitions about learning:

- Learning is nature's expression of the *search for development* (Senge, 2000b)
- Learning is *not something we do sometimes* in special places or certain periods of our lives. It is a part of our nature, we are born learners (Claxton, 1999).
- It is not only an intellectual process; it crucially involves the development of personal, emotional and social skills. Its success depends on the *feelings, motivations and confidence* of the learner.

Each of the above definition points towards the learning ability of learners. They all have hints of constructivism. The importance of individual differences as a factor in learning is also highlighted. It is time we give up the jargon of 'action verbs' and seriously get talking of the teaching-learning dyad. Not that we have not used the terms teaching-learning earlier but as Watkins (2002) succinctly notices:

> *"its surprising how often talking about learning is hijacked by talking about teaching...as I have the term teaching and learning, which often means teaching and teaching or is said so fast that it sounds like fish 'n' chips. We have to have a clear focus on learning."*

A learning orientation results in learning objectives which are essentially formulated through consultation. Such design-down approach encourages ownership of the outcomes by teachers and learners alike. A consultation on the very meaning of learning is a must if we want to develop a respect for learning orientation in our learners. As reflective practitioners we need to substitute instructional objectives with learning objectives in words and in actions, if important forms of learning are

not to be excluded from the definition of effective education for us and our learners alike.

iii) Towards meta-learning

If the broadest aim of all formal educational efforts is to facilitate sound adaptive mechanisms in individuals for life after school, then meta-learning must be a cherished means. Meta learning succeeds metacognition. It moves past 'thinking about thinking' and ventures into the empowering skill of 'learning about learning'. Meta-learning is defined as "Standing back from the contents of the learning and evaluating the effectiveness of the process involved. The social and emotional processes implied here are broader than just thinking about thinking" (Carnell and Lodge, 2002).

Given that Meta-learning can be a powerful tool in hands of the learners, teachers must begin with early consultations on the same. Every learner has some native theory about how she/he learns best. This theory needs to be tested for individual learners and they need to be exposed to a broad range of learning styles. The learners must have a sense of ownership over what they learn. Further, they must get opportunities to reflect upon, review and evaluate what they have been doing. Such reflections must have both cognitive and affective appraisals.

The teachers and learners should view the quest for meta-learning as a capacity-building exercise. Once the learners develop the means for critically commenting on their own learning, the subsequent efforts towards achieving authentic learning become fruitful. It is thus imperative that a teacher continually engages in and revives the discussion on meta-learning with her learners. Not only would it result in a clearer self-understanding for the learners, the teacher would also be able to maintain a fairly updated profile of her learners emerging cognitive competencies.

iv) Collaborative evaluation

Consultations in evaluation ensure that it is geared to 'promote change' rather than 'measure change'. The trouble with 'measuring change' is that it firstly, denotes a product focus and secondly, is hand in glove with performance orientation. If, as educationists, there is a consensus on the primacy of learning over instruction as well as an acknowledgement of meta-learning as a key aim of educational interactions then collaborative evaluation becomes a necessity.

A pre-requisite of collaborative evaluation is collaborative objective formulation as discussed in the earlier section. It is critical for evaluation to be valid and purposive that it is based on the initial objectives. To collaboratively evaluate the efficacy of an educational intervention/experience, it is mandatory that the collaborating parties have the same reference points. Thus, the process of collaboration begins much before the actual evaluation exercises.

It is widely accepted now that formative evaluation gives a better picture of learners' attainment than the traditional summative practices (MacGilchrist et. al, 2004). Consultation has to be done to discuss the continuity and comprehensiveness of such evaluation. It must also be noted that individual learner, with idiosyncratic learning styles, learning orientations and facility with different forms of intelligence may not respond to an umbrella repertoire of evaluation mechanisms. If the aim of evaluation is to provide constructive feedback then consultations about forms of evaluation must also be engaged in.

To illustrate: researches have proved that boys tend to prefer competitive assignments whereas girls perform above par when given tasks needing co-operation and co-construction (Head, 1996).

Given that we are not aiming for merit ratings and rankings but would prefer criterion referenced assessment instead, research evidences like these must be respected. Further, if we make our learners believe that effective learning is not a passive process confined to either the classroom or the process of studying but is an active process of meaning making that includes questioning, understanding, reflecting and making connections between existing and new information and subsequently being able to use and apply learning in a wide range of situations, then our evaluation practices must reflect the same.

Conclusion: The Road Ahead

Consultations, collaboration and co-construction have been part of the educational discourse since the second half of the twentieth century (Rudduck and McIntyre, 2007). There have been reflective practitioners all along. There have been individuals ardently pursuing 'best practices' and democratic teachers giving respect to individual learners and their uniqueness.

The matter of concern however has been that these are individual instances of brilliance in teaching. The educationists are unanimous on the indispensability of teacher-learner equality. The corpus of research supporting the same is enormous, too. A multi-pronged approach to translate the theoretical consensus in praxis is needed. Pre-service and In-service teachers are both to be made a part of the strategy (Hellsten and Reid, 2008). Also 'assuming that requiring learners to work in groups or changing the structure of existing schools or classroom seating patterns will lead to collaborative teaching strategies'(Vandenberghe, 2002) is an act of naiveté .

It is not as if the policy-initiatives have been static and unchanging. There has been a paradigm shift in favour of child-centered education. Constructivist classrooms are now projected by policies as a norm rather than exception. It is increasingly suggested that pedagogical innovations take into account the context of the educand.

Yet, it is left to a conscientious teacher's academic and personal resolve to accommodate all these best practices in her classroom. This is because the era of 'consultations' has

not arrived on the policy-horizon. The policies are neither cognizant of meta-learning nor reflecting a departure from performance orientation. It must be recognized that, for whatever reasons, educational policies have greater influence on teachers than any educational discourse. If good things do not come thick and fast by volition of people they can come by way of obedience (to begin with) and would still be welcome. The assumption here is that the tremendous merit of consultative, collaborative practices, even if externally enforces, would with time win over most resenting practitioners. Even if all such efforts 'are doomed to fail', they are deservedly worth a honest try by policy makers, curriculum framers, school administration and the teachers with their learners, alike. So let us start our wait for the *Doomsday* called *Godot!*

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TESS-India OER: Collaborative practices to improve teacher education

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Abstract: As the numbers of children attending school in India rises rapidly, ensuring a productive learning experience for every student is a huge challenge. Quality is central to the Government of India's education policy; major education goals recognise that changes in teachers' classroom practice are critical to improving students' learning in elementary and secondary schools across India. This paper describes the rationale and pedagogy of an innovative response to these challenges harnessing contemporary ideas on 'open', learning and the increasing availability of network technology in the form of a multilingual Open Educational Resources (OER) teacher education toolkit. The main section of the paper then describes the processes for multi-stakeholder participation in the development of the elements of the OER toolkit and the paper concludes with a discussion of the 'open' dimension of the project and how this enables 'local' authentication and mediation of use of the OER in each of the project states.

Keywords: Open education resources, Teacher education, TESS-India.

Introduction

Investing in teachers is acknowledged to be essential to improve the quality of education across the world (UNESCO, 2014). Most recently this has been recognised internationally in target 4c of the Sustainable Development Goals which calls for an increase in the supply of qualified teachers (UN, 2015). But the form of investment in teacher development and where it might be focussed within education systems to support education transformation are complex issues for national and local stakeholders. Globally education policy is dominated by a belief that learner-centred approaches to teaching and learning will enhance students' experiences in schools (Schweisfurth, 2013) and India is no exception. Indian Government policy is particularly ambitious and visionary in terms of the implementation of active pedagogies, however ten years after the publication of the NCF-2005 there is much still to be done to make the child centred classrooms described so vividly in the NCFTE-2009 a reality for all children across India (NCF 2005, NCFTE 2009).

This paper analyses how TESS-India (Teacher Education through School Support in India) (www.tess-india.edu.in), a UK-India partnership investment, is harnessing online technologies, research on learning and contemporary thinking on open development to create an innovative Open Educational Resources (OER) teacher education toolkit in support of improvements in the classroom practices of teachers in multiple contexts across India. The paper outlines the rationale for the initiative and the problems of

practice which it is addressing before describing the main features of the project and how they support movements of practice through a participatory pedagogy. The paper concludes with a discussion of the 'open' dimension of the project and how this enables 'local' authentication and mediation of use of the OER in each of the project states.

TESS-India was initiated in 2012 at the bequest of the Government of India to help address the issue of teacher quality. As increasing numbers of children across India attend school, the challenge is to ensure a productive learning experience for each child. Recent data indicates large numbers of children achieve poor learning gains for each year in school (ASER, 2015). Changes in classroom practice are acknowledge to be critical to improving these children's learning and targeting teacher training is a significant goal of the Government of India (GoI, 2013). TESS-India offers an pioneering teacher education response to these challenges with its multilingual Open Educational Resources (OER) toolkit comprising text and video materials in multiple formats to support the professional practice-based learning of primary and secondary teachers of literacy, maths, English and science. Through harnessing the attributes of 'open' in both the outputs – OER - and in its ways of working, TESS-India can be argued to be part of the emerging 'open development space' (Reilly & Smith, 2014). Collaborative peer production under a diffuse and contextual structure gives rises to multiple products (OER) with distributed ownership and an absence of commodification.

TESS-India is funded by UK Aid as a multiple stakeholder partnership lead by the Open University, UK working with the Ministry of Human Resource Development (MHRD) and Departments of Education in seven states across India[1]. Collaboration is central to the TESS-India model and over 200 Indian and international teacher education experts, policy makers and teachers were involved in the creation and adaptation of the OER and large numbers of Indian teacher educators are now incorporating the OER into their pre-service and in-service teacher education programmes, aiming to sustainably strengthen and improve systems at relatively low cost.

The Context

Quality has long been central to education policy in India and the Twelfth plan (2012-2017) continues this theme, 'The four main priorities for education policy have been access, equity, quality and governance. The Twelfth Plan will continue to prioritise these four areas, but will place the greatest emphasis on improving learning outcomes at all levels'. (GoI, 2013, 21.14). The approach to quality is holistic embracing not only structural and physical school inputs but systems in teaching and learning including building the capacity of teachers to ensure that 'every child must be in school and learning well' (GoI, 2013, 21.36). Recent Indian education policy has articulated a position for teachers as reflective, empowered, professional practitioners working within a constructivist orientation. In positioning students as knowledgeable, problem solvers and self-directed, policy draws on both global discourses and the Indian child-centred

[1] In this first phase TESS-India is working in Assam, Bihar, Karnataka, Madhya Pradesh, Odisha, Uttar Pradesh and West Bengal.

tradition in which the teacher's expertise and skills are used to guide the child appropriately (NCF, 2005; NCFTE, 2009; RTE, 2009; Saigal, 2012; Guthrie et al, 2015, Smail, 2014). A framework for Teacher Education reform to support movement to this new participatory pedagogic position was extensively detailed in the NCFT-2009 National Curriculum Framework for Teacher Education (NCFTE) and subsequently there have been a number of implementation initiatives at national and state level.

Compared to many countries the structures for teacher education in India are comprehensive, de-centralised and wide-spread although complex and at tremendous scale. In 2014 only over 1.1 million teachers acquired qualifications from 13,000 Teacher Education Institutions (MHRD, 2015). For elementary teachers the networks of Block Resource Centres and linked Cluster Resource Centres at district level provide a cadre of local teacher educators to support in-service teacher development, complementing and extending the provision of the District Institutes of Education and Training (DIETS). Structures for developing the professional capabilities and skills of secondary school teachers are still emerging but both elementary and secondary teachers are entitled to a number of days of professional development each year; the allowance for elementary teachers whilst recently reduced, is still generous by international standards (MHRD, 2015). Each year targeted initiatives are designed to offer professional development opportunities for classroom teachers, such as the Learning Enhancement Programme (LEP) under the Sarva Shiksha Abhiyan (SSA) for elementary teachers and the 'Orientation of Secondary School Teachers' in the Annual Work Plan and Budget 2015/16 for Rashtriya Madhyamik Shiksha Abhiyan (RMSA) (GoI, 2014).

But, despite these structures, initiatives and the official discourse of 'child-centred' learning, a series of government reviews such as the Justice Verma Review 2012 and Joint Review Missions for Teacher Education catalogue serious deficiencies and challenges within the system; little change is observed in classroom pedagogy and teacher training is not yet seen to be impacting on improved learning outcomes for students (Muralidharan, 2013; MHRD, 2012a-c; MHRD, 2014). Analysis of provision points to a dissonance between policy and enacted pedagogy pervading the system exacerbated by the low importance given to 'teaching practice' in teacher education programmes (Banks and Dheram2013; MHRD, 2012a). Many programmes are observed to adopt a theory-orientated discipline-based approach where development of disciplinary knowledge is experienced separately from professional training in pedagogy. Programme design assumes that trainee teachers will develop child-centred pedagogic practices from study of learning theories; modelling of the link between these theories and pedagogic approaches in the classroom is absent (NCFTE, 2009). This limits teachers' understanding of a 'child-centred' approach and does not equip new teachers to deal with the complexities of the real classroom situation. Such realities are becoming increasingly multifaceted – multilingual, multigrade classes, large numbers of first generation learners, but there has been slow revision of teacher education curricula to recognise these conditions and to align with the philosophical and epistemological approaches articulated in the NCFTE, 2009. Reports note that DIET staff often have limited interaction and only partial knowledge of local schools and their communities

(Azim Premji 2010; MHRD, 2013) with the result that frequently the curriculum gives little value to the practitioner knowledge of teachers and the languages and cultures that children bring to school are ignored. In school classrooms an approach characterised by rote-learning and an emphasis on examinations and tests continues to be ubiquitous across the country. Many teachers perceive their role to be limited to delivery of the prescribed content of the text book and the exercise of teacher professional autonomy leading to experimentation and pedagogic innovation is not often observed (MHRD, 2012a-c; Smail, 2014; Sriprakash, 2010; Bose, 2013).

TESS-India and Teacher Learning

A theme through these reviews and analysis is the persistence and prevalence of classroom practice which does not offer possibilities for productive learning to a large number of students. It is this prevailing condition which is the focus of change in TESS-India. TESS-India places teachers at the heart of classroom renewal arguing that a re-conceptualisation of the role of the teacher and their relationship with their learners – an ontological shift, is crucial for achieving the pedagogic transformation articulated in policy (NCF, 2005; NCFTE, 2009). TESS-India OER addresses the observed disconnect between theory and practice by uniquely modelling for teachers, and teacher educators, ways of transacting participatory pedagogy in classrooms through exemplars from the student curriculum. Within the OER, attention is also paid to how knowledge and ways of knowing develop and are deployed in new learning situations. The pedagogy of the OER challenges the dominant epistemological position in which knowledge is seen as something objective and external to people and hence acquired through the learning process. Rather knowledge is seen as developing through a constructive process mediated by prior knowledge and personal and community experience. In this way the OER aims to recast the relationship between what people know and the setting in which they know, 'between the knower and the known' (Putnam & Borko, p.12, 2000). Through enactment of the pedagogy modelled in the OER and engaging in reflection informed by evidence of practice, movement in practice for teachers is enabled (Murphy, 2014). Evolution of the policy position over time and location is anticipated through drawing on 'openness as contingency' in the project model (Reilly & Smith, 2014) allowing local mediation of authentication of the OER and differentiated forms of use to meet local needs and structures.

Central to the TESS-India approach is the classroom or lecture hall as the site of teachers' professional learning. Teacher learning is understood as movement forward into practice, into becoming a more competent and effective professional rather than the acquisition of abstract knowledge external to people. To develop as a professional is to become more skilled and enhance one's capabilities with the tools and practices of the profession, and this only becomes meaningful through participation, that is through negotiation and re-negotiation in practice in the classroom or lecture hall (Lave, 1992). Teachers' learning is then inseparable from the learning of their students, they are entwined in a complex multi-faceted dynamic relationship which also includes the artefacts of their surroundings (Bruner, 1996). Learning, in this perspective, is

conceptualised as social, jointly constructed with student partners and peers; distributed, shared over the people, activities and artefacts of the environment; and situated – determined by the circumstances in which it occurs and what is made available to learners whether they are teachers or students.

This approach is reified in the TESS-India OER in which the participatory pedagogy is characterised by five key features:

- positioning students as knowledgeable,
- eliciting what they know,
- the negotiation of meaning to support participation in learning,
- structuring of learning opportunities through the creative use of learning resources, and
- developing dialogic interactions – learning from each other.

The OER challenges explicit stratification of students, valuing difference over age, achievement or background thus, for example, teachers are encouraged to respect the language of each child and multilinguality of students becomes part of the pedagogic process as a resource to use for linguistic and cognitive growth (Agnihotri, 2014).

Development of teachers' adaptive expertise, knowing how to act in different circumstances, is a fundamental aim of the TESS-India OER. The OER are not written as a set of instructions where teachers instrumentally apply a set of strategies or detailed 'scripts' in their classroom. Rather the OER supports the development of reflective and discursive identities within teachers by treating them as professionals able to make judgements on their students 'learning and encouraging them to engage in ongoing conversations with their practice to generate solutions for their own classrooms. Hence whilst the OER guides teachers to undertake activities drawn from the specified school curriculum with their learners in their classroom, they do not cover the entire school curriculum. Teachers are expected to extend their learning in active participatory practice to other topics within the curriculum in addition to those covered in the OER.

The OER acknowledges the contextual and contingent aspects of schooling. They encourage teacher movement towards greater participatory practices embedded within the culture and realities of teachers' own practice recognising that new pedagogy, and associated classroom practices, is interpreted through teachers' cultural constructs of teaching and learning, their prior experiences of teaching and their attitudes towards and expectations of their students. Teachers are challenged to take responsibility for learning in their own classrooms and empowered to understand the effects and rationale of the participatory pedagogy through ownership of their use of it. Teachers develop their capacity to make a difference in their classrooms.

The TESS-India OER Toolkit

Collaboration is central to ways of working in the TESS-India project. The key mechanism for enabling collaboration at all stages of the project is a State Resource

Group (SRG) in each of the project states comprising 20-30 Teacher Educators, leading teachers and other key teacher education stakeholders nominated by the relevant state nodal body. They bring a depth of experience and the potential to mediate across levels in the ecosystem of teacher education in each state. Through participation in embedded TESS-India activities – OER writing and refinement, AV preparation and filming, translation and localisation of the OER, SRG members have deepened their understanding of how the TESS-India OER functions to support changes in understanding of learning and learners. Thus, how SRG members experience these activities is an integral part of the planning for enacting change.

Initial work focussed on identification of needs to inform the shape and size of the OER toolkit. This comprises sets of text and video OER for teachers and school leaders as shown in figure 1:

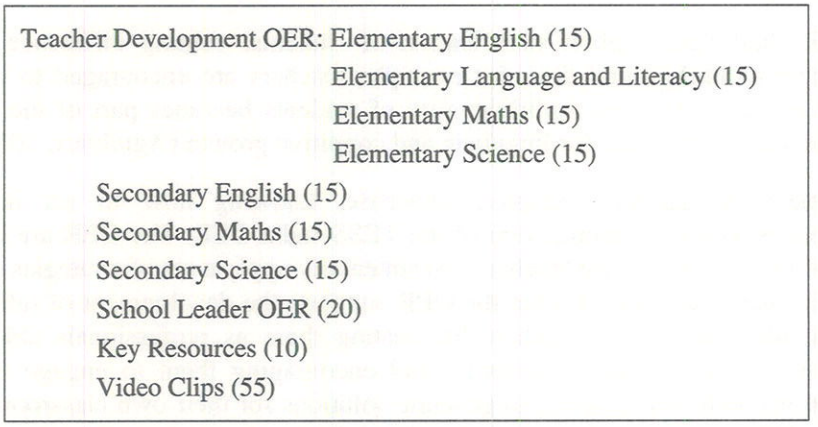

Figure 1: *TESS-India OER*

For the lower secondary phase the focus on Science, Maths and English is in line with the goals of RMSA and priorities for in-service teacher development. At elementary level the subjects reflect the key specialisms of upper primary school teachers whilst recognising the more integrated curriculum of the lower primary classes. A complementary set of OER for head teacher casts the school leader as an 'enabler' of teacher and student learning and focusses on developing skills in the leadership of learning at school level.

The Key Resources are integral to the design of TESS-India providing a set of ten themes which support conceptual coherence across the sets of OER. The Key Resources help teachers to make sense of the pedagogy outlined in policy in the context of their classrooms, showing what it means and the new practices that need to be introduced. They offer concise and accessible overviews of classroom approaches and methods including ways of organising students, learning activities, student-student and teacher-student interactions, and identifying, meeting and monitoring student learning needs, complementing the specific details within the subject OER.

* Planning lessons
* Involving all
* Talking for learning
* Using pair work
* Using questioning to promote thinking
* Monitoring and giving feedback
* Using group work
* Assessing progress and performance
* Using local resources
* Storytelling, songs, role play and drama

Figure 2: *TESS-India key resources*

The Key Resources provide an organising framework for the short video clips (55 in total offering over 4 hours of film in each language version) shot in primary and secondary schools in Utter Pradesh and Madhya Pradesh in collaboration with SRG members and other local teacher educators. They show teachers trying out more learner centred, participatory approaches with their students in authentic contexts. The videos are not intended to demonstrate model practice but to inspire teachers to experiment with similar approaches and techniques in their own classrooms, to provoke conversation amongst teachers and teacher educators and to increase teachers' confidence in enacting ideas from the complementary text OER through evidencing how individual teachers are using new or unfamiliar practices in their own classrooms. Each video has a commentary focussing on *student learning* and how this is enabled by particular aspects of the teacher's practice, serving to model good classroom observation, in particular 'noticing' aspects of student learning that require formative action. Each commentary concludes with an outline of how student learning will be taken forward and raises a question for the viewer, for example prompting consideration of the implication of the activity show in the video to their own practice. Whilst the classroom dialogue is in Hindi SRG members supported creation of multiple language versions of the commentary including a description of key points of the classroom dialogue for those unfamiliar with Hindi Language.

The basic unit of learning for the teacher is the Teacher Development OER. Each subject set contains 15 individual OER all following the same template explained in figure 3:

What this unit is about	Introduces the teaching approach and the curriculum topic of the unit.
What you can learn in this unit	Learning expectations for the teacher which highlight the key opportunities for learning in the OER (no more than 3 in each unit)
Why this approach is important	This section explains why the teaching approach modelled in the OER is important in supporting productive student learning.
Activity (3-5)	Activities to be carried out by the teacher. Most are for the teacher to do in the classroom, with their students, but some involve working collaboratively with colleagues or preparing for classroom activities.
Case study (2-4)	These accounts show teachers undertaking the activities described and the actions they take in response to student questions, behaviours and developing understanding.
Pause for thought	Prompts to encourage the teacher to reflect purposefully on their existing practice or experience and what they have noticed when carrying out the activities or studying the case studies.
Narrative	This reinforces the benefits of the approaches and techniques that are the focus of the OER and supports the teacher in developing their learning in different curriculum contexts.
Summary	A brief review of the technique covered in the unit and encouragement to the teacher to take forward their learning, revisiting the ideas in different curriculum contexts.
Resources	Material to support the teacher in carrying out the activities. They may contain more detail about the approach (such as material from one of the key resources), support for subject knowledge development, classroom resources and links to the text book or further examples of similar classroom activities.
Additional resources	These are intended to empower the teacher by encouraging them to take their learning beyond the OER and engage with other resources that support their developing professional practice. This is an opportunity to raise awareness of high quality resources that are available in India and internationally.
References/ bibliography	References used by the authors and other recommended readings for the teacher to extend their academic understanding of the issues highlighted in the unit.

Figure 3: *Components of a TESS-India OER*

The OER learning outcomes, addressed to the teacher not students, balance the need to be achievable with recognition of teachers' different starting points for development and varied contexts. At the heart of each OER are the *activities* and accompanying *case studies*. The activities help the teacher to enact practices that position learners as

knowledgeable, promote dialogic interactions and provide structured learning experiences that take prior learning into account. Through undertaking the activities existing practices are disrupted and the teacher is supported in developing new understandings about teaching and learning. The case studies derived from field work capture stories and ideas from practising teachers and illuminate particular aspects of classroom interactions, extending teachers' views of the possible (Dyer et al, 2004) A key aim is encourage teachers to attend to the thinking of students by scaffolding teachers through the process of interpreting their students' understanding and making decisions on how to respond on the basis of their students' understandings, an approach congruent with current policy envisioned by Continuous, Comprehensive Evaluation (CCE) in the RTE (2009).Within each OER are a number of prompts to the teacher to reflect on evidence from their own practice and the case studies, through this engagement learning for the teacher is supported.

The TESS-India OER complement the textbook, aimed at supporting student learning, and are distinguished from typical teachers' guides and materials which offer detailed teaching strategies but not support for teacher learning. They are a source of teachers' learning not merely ways to teach particular topics. Use of specific instances from the student curriculum ensures they are relevant to the tasks teachers have to perform and helps to capture teachers' attention – teachers are known to look for aspects of lessons which are familiar to them (Lloyd & Behm, 2005). The OER develop teachers' knowledge and skills but structure teachers' engagement to encourage them to continue to use these 'principles of practice' beyond the specific lesson and topic. They challenge the current often limited role of the teacher, developing teacher professional autonomy through experimentation and creativity.

Alignment with the school curriculum and current initiatives such as CCE is critical for authenticity of the OER alongside recognition of the working conditions of many teachers in India – multi-lingual classes, considerable number of first generation learners, large classes, paucity of educational resources and equipment. The universal availability of text books is acknowledged and these are drawn on in the activities, as are resources from the local community. Development of teachers' subject knowledge, frequently identified as a professional learning priority (Behar, 2015), is integrated through the OER. Similarly, activities aiming to improve teachers' confidence and competence with IT in support of student learning are threaded through the OER harnessing the affordances of readily accessible tools such as the camera facility on a teacher's mobile phone.

The TESS-India toolkit is infinitely adaptable and flexible for use in different cultural and environmental contexts and to meet a range of teacher development needs. Flexibility in the design of the TESS-India OER enables chunks of learning material (OER) to be joined together in multiple ways and integrated with other content; there is not one linear sequence or pathway that must be followed through the OER.

Completed OER was reviewed by an Independent Review Panel (IRP), comprising 16 Indian and international educational experts selected by MHRD. The IRP gave robust

approval to the TESS-India OER, judging that they met the quality and appropriateness criteria for dissemination and ongoing development and found much to commend in the way that the OER had been developed (Moon, 2014).

Feedback from instances of OER use has iteratively informed development of the OER and reported promising observable shifts in teachers' practices. In the process of creation of the video clips pairs of teacher educators and teachers were given drafts of the Key Resources and the text OER (in English) on a Tablet/PC. The tablet offered both a convenient way of storing the library of TESS-India OER, offering the teacher educator ready access to reifications of the participatory pedagogy to use in discussion with the teacher, and also a tool for capturing moments – emergent interactions – in the classroom (through audio, video, text, image) for use in the post-lesson discussion with the teacher and also analysed for research (to be reported in a later paper). The ten themes of the Key Resources were allocated across the teachers, each taking two themes to focus on in their teaching during the production phase. During this 2-3 week period the teacher educator undertook observations of the teacher's classes and engaged in a daily feedback discussion with the teacher. This discussion focussed on specific instances of practice in lessons using the evidence provided by the tablet recordings and explored how the teacher could move to a more participatory pedagogy. The teacher educator used the TESS-India OER to exemplify practice issues with the teacher; activities for future lessons, case studies to illuminate particular points and drawing on the prompts – 'pause for thought' – in their dialogue. Importantly the TESS-India OER also provided a learning resource for the teacher educator helping them to develop their understanding of participatory practices.

Shifts in classroom practices can clearly be seen in the TESS-India video[2] and as one of the project team comments when talking about students in a secondary Maths class:

> *'secondary level also I saw the students, ... the way they were questioning their teachers, they had become, they had a comfort level that was never there earlier with the teacher in asking questions, in raising queries and just sharing whatever their thought about the topic.'*
>
> Sept 2014

and more generally,

> *'When I observed the classroom and also interacted with the students later on, I could really see the changes. The students said that the teachers were never earlier teaching like this and now we are understanding more and we are asking more. So these words really made me confident of the change that I was myself observing.'* Sept 2014

[2]https://www.youtube.com/watch?v=naUh7NPi_AE

Such comments are not untypical of those from head teachers, local teacher educators and TESS-India authors when supporting teachers in engaging with the activities in the OER.

Capacity building for a larger cohort of teacher educators beyond the SRG in each state is being achieved through the TESS-India MOOC[3] (Massive Open Online Course). This is an open and free online task-orientated course following a participatory pedagogic model congruent with the pedagogy of the TESS-India OER. Teacher educator participants study for approximately 4 hours a week over a 6 week period engaging in a number of collaborative, interactive tasks and those who successfully submit a small number of assignments are awarded a Certificate of Completion. The first pilot iteration of the TESS-India MOOC was offered in May – July 2015 in English and attracted almost 3000 participants from across the globe in addition to 200 teacher educators sponsored by the TESS-India state partners. This latter group were offered regular face-to-face contact sessions to complement study in the online space and over 80% of this group completed the MOOC. Data from this pilot presentation of the MOOC is currently being analysed to inform a second presentation of the MOOC later in 2015 and will be reported in detail in a further paper.

Being 'Open'

TESS-India is conceptualised as an 'open' project, harnessing ideas about 'open' content within an 'open' model of project working – a non-hierarchical networked endeavour (Castells, 2010). The project model is not seen as formalised and fixed, to be followed exactly in each project state, but rather as a process which evolves appropriate to particular contexts to enable achievement of project goals. TESS-India leverages the attributes of open content to enable educators to collaborate and practise in new, locally relevant and productive ways. All project content is open in the form of Open Educational Resources. These are defined as 'teaching, learning, and research resources that reside it the public domain or have been released under an intellectual property license that permits free use and re-purposing by others' (Smith & Casserly, 2006). Under all OER licences users are given rights to free access, to copy and to reshare but many OER (including the TESS-India OER) also grants users the right to adapt, modify and translate the materials for different contexts and purposes thereby adding value to the original OER and creating derivative resources. These properties of OER are central to TESS-India, 'users are able to become creators and readers become authors' (Smith, 2014; p.131).

In TESS-India the 'adapt' or 'revise' facility of OER has been formalised through a highly structured three stage project sponsored localisation process and the OER are now available in 9 versions (generic English and Hindi versions in addition to versions specific to each of the 7 project states) and 6 languages – Hindi, English, Assamese, Bengali, Kaneda and Oria.

[3]https://www.edx.org/course/enhancing-teacher-education-through-oer-oecx-tess101x

In the localisation process lead academics first analysed each OER to identify those sections where localisation was necessary (for example references to specific text books, stories and festivals) and points where localisation might be beneficial to enhance teachers' engagement with the OER. These were recorded on a series of detailed grids for review by the relevant subject experts of each TESS-India SRG. Through dialogue agreement was reached on the points / sections to be amended in the localisation process in each state. A draft localisation handbook was prepared by the core TESS-India academic team drawing on experience in adapting OER in other teacher education projects (Wolfenden et al, 2012) and in the second stage core groups of experts in each SRG adapted the handbook. In each state teams of subject educators subsequently undertook localisation of the translated TESS-India OER in accordance with the agreed changes on the state localisations grid prior to review and endorsement by state nominated bodies in each project state.

Following the publishing of these 'state authenticated' OER any institution, group of educators or individual is able to download, further adapt, modify or translate the OER for their own purpose and context free from any central control – we have conceptualised this as stage 3 of the localisation process. (Under the Creative Commons licence there is an expectation that TESS-India will be acknowledged as the source of these amended OER and that these derivatives will also be freely available to other users.)

The development of meaningful and sustained mutual engagement between teachers and learners, essential for full participation of all learners, requires dynamic interaction between culture of the home and community and the formal culture of the school. OER localisation allows connections of different cultural discourses within formal learning, enabling different values and social practices – the 'funds of knowledge' (Gonzalez, 2005) to become part of cultural space of the classroom. The TESS-India localisation process paid attention to current issues in the Indian education system such as the vibrant discourse around the use of local languages and the knowledge and social practices their use conveys. Through localisation values of different groups of learners become part of the practices valued by formal education and the enacted curriculum is opened up, improving equality of access to learning for all learners.

The advent of new technologies and their rapid expansion across India offers a potential mechanism for supporting teachers' professional learning with OER even in remote rural areas (Power, 2014). Although relatively few elementary schools yet possess computers or internet access, access to the web in teacher training colleges and secondary schools is growing alongside wide availability of sophisticated mobile phones and networks (Statista, 2015). Thus teacher and teacher educator access to high quality materials is increasingly less dependent on surmounting financial and other access barriers and increasingly dependent on their ability to take advantage to shape the tools for their own contexts and learning needs. Recognising this diversity TESS-India OER is freely available in multiple formats; online, offline access at DIETS, Colleges and BRCs and on micro SD cards for a range of mobile phones and low cost handheld computers. Tools

such as 'WhatsApp' are already enabling practitioners to share ideas and work collaboratively to share experiences of use and adaptions of the OER appropriate for their own context.

Embedding the TESS-India OER in Teacher Education

The OER are addressed to the teacher, written in an informal conversational style and designed to be able to be accessed directly by teachers for independent study however we envisage that in the majority of cases use of the TESS-India OER will be mediated by teachers educators, integrating the OER within pre-service or in-service programmes or school based teacher learning episodes in support of locally identified teacher development needs. The OER thus act to strengthen existing systems of teacher education; they not an intervention or new programme and it is not necessary to involve additional educators to support their use.

The key actors in enacting this distributed model of change are the SRGs in each state. They have worked in partnership with their respective state apex education body to develop plans for use of the TESS-India OER and articulated this activity in the relevant 2015/16 AWPB. The plans detail incorporation of the OER in many different programmes and teacher learning episodes with varied forms of mediation appropriate to the contexts to create the conditions which enable this situated approach to teacher learning and to support teachers with the dialogue and negotiation needed to move towards more participatory classroom practices. Trying out activities from the OER and discussing cases studies in existing programmes and meetings such as monthly cluster meetings, attempts to strengthen the academic practices of teacher educators working throughout the system and in particularly those working directly with in-service teachers at cluster and block level.

Examples of the ways in which mediated access to the OER will be made available to teachers are shown below.

Pre-service teacher education	**In-service teacher education**
Incorporation in the revised DELEd papers in several states	Training for teachers and CRCs based on the 10 themes of the TESS-India Key Resources
State Open University using the OER in its distance learning programmes	Integration into SSA and RMSA programmes
Network of 11 universities,5 Colleges of Teacher Education and 2 constituent colleges collaborating to include the OER in their B Ed programmes	Incorporation in local academic mentoring programmes
	CPD module on CCE based on examples from the TESS-India OER
	Inclusion in programmes of NGOs

Figure 4: *TESS-India OER embedding*

Moving Forward

The OER in themselves are not an alternative construct for teacher professional learning but they provide the tools to enable such an approach to be enacted at scale and in a sustainable fashion contributing to transformation of classroom teaching and learning congruent with the vision of policy. Their starting point is teachers' everyday professional practice making them both relevant to needs of school education and in line with pedagogic shift argued for in policy (NCF, 2005). The openness of the OER allows a broadening of the idea of what counts as valued knowledge working to close the theory/practice divide, and openness in the project model enables a way through the dialectical relationship between national policies and state structures, priorities and practices to combine large scale working across contexts with personalised teacher learning at a local level to meet identified needs (GoI, 2013 Box 21.1). The SRGs broker boundary crossing through the complex landscape of teacher education practice in each state helping to achieve 'buy-in' to the resources, distributed ownership and stimulating innovation (Wenger-Trayner & Wenger-Trayner, 2015).

Over the next few years we look forward to observing, investigating and reporting on the different forms of use of the TESS-India OER, the derivatives which arise from the original OER and the related forms of interaction which occur within classrooms, schools and colleges across the seven project states.

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Impact of yoga on academic achievement of students: An experimental study

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Abstract: Yoga is the oldest systems of personal development in the world encompassing the entire body, mind and spirit. The overall aim of yoga is attainment of physical, mental and spiritual health.

Since yoga harmonizes the growth and help in total development. It should be introduced in the educational system for the all round personality development of students. The practice of yoga not only helps to keep the young body strong and supple but also incorporates mental activities and disciplines that help to develop attention, concentration and stimulate the creative abilities that are latent within the child. Studies on normal children have indicated that regular practice of yoga helps in Psychological improvement of intelligence and memory quotient. In the content of scholastic achievement yogic exercises demonstrated to develop a relaxed mental state.

Sage Patanjali had given the idea of yoga 4000 years ago in the form of yoga "Sutras" (aphorisms) and said that it is a conscious process of gaining mastery over the mind, body and soul. All great men like Swami Vivekananda, Sri Aurobindo, Mahatma Gandhi, Rabindranath Tagore etc. emphasized the importance of yoga practice in Education. Keeping these facts in view the researcher has taken the present study 'The Impact of Yoga on the Academic Achievement of the Students'.

Keywords: Yoga education, Academic achievement, Experimental study.

Background and Rationale of the Study

Modern Indian education has considerably failed in its endeavour in helping the youth in understanding themselves and in developing a comprehensive view of life and its significance. The present type of education is mostly devoid of training the youth in independent thinking, resulting them becoming mediocre. Education has become merely a tool in imparting bookish knowledge which is mainly examination and job oriented and there is no chance given to think freely. Students are not trained to develop into integrated persons. Youth have to face many problems and challenges of life, but they are not fir enough to face them. From the material side, they have an urge to be successful and to have security and comfort their lives. Not securing them, as generally is happening in the present day, they develop discontentment and fear, which automatically hinders their spontaneity in understanding life intelligently. They avoid

new experiences and thereby lose the spirit of adventure. The discontentment in life makes them revolt against the existing social order and this brings opposition and constant struggle. This struggle need not be external only, but internal also, which is more dangerous and leads them into all kinds of problems.

Education policy-makers and educationists are not yet fully convinced of the efficacy of yoga. Theoretical and practical aspects should be included in the syllabus, as a regular part of the curriculum. Yoga trains the students in attaining self-knowledge and discipline from within. Students must be taught moral and spiritual values of human life and the path to follow them. Any academic knowledge can be considered as virtually meaningless and useless without the knowledge of yoga.

Youth, through proper education in yoga, can come to the true understanding of the significance of life. Yoga caters to the development of the whole being. It develops in the youth, a harmony of life. It removes ignorance of the biological functioning of the body and teaches how to be physically fit and alert and through yogic methods and techniques, enables them to control their emotions, which are the root cause for many evils. It enhances intellectual powers and memory and stability of mind, which aids in developing them into high intellectuals. Yoga leads them in the path of moral and spiritual life. Youth will develop a comprehensive outlook of life as a whole and thereby lead a meaningful and fruitful life. A study of yoga in the educational institutions, as a compulsory core subject is the best solution to the present evils of the youth.

The present study throws light on the impact of Yoga on academic achievement of students, and deals with the improvement of students' achievement in school subjects. It has proved to be very interesting and very important conclusions have been derived. It is intended to provide on the valuable inter-relationship among yoga and education. There is an urgent need of re-introducing yoga and dance in modern Indian education system. It tries to recommend to the extent it can, the different stages of yogic methods which should be introduced at different levels of education.

Objectives

The present study aimed to investigate the effect of yoga on academic achievement of the students and the objectives were formulated as mentioned below.

- To study the effect of yoga on memory.
- To study the effect of yoga on concentration.
- To study the effect of yoga on academic stress.
- To study the effects of yoga on academic achievement.

Variables

Dependent variables - Memory, concentration, academic stress, and academic achievement.

Independent variables - Yoga, sex (boys and girls).

Academic achievement = f (memory, concentration, academic stress)

- ✓ *Academic achievement α memory:*
  Academic achievement is directly proportion to memory.
  If memory increases academic achievement increases.
- ✓ *Academic achievement α concentration:*
  Academic achievement is directly proportion to concentration.
  If concentration increases academic achievement increases.
- ✓ *Academic achievement α 1/ academic stress:*
  When academic stress increases, academic achievement decreases; when academic stress decreases; academic achievement increases.

Hypotheses

1. There is no significant difference between the post-test scores of control group and experimental group in the various components of the stroop test.
2. There is no significant difference between the post-test scores of experimental and control group in the various components of the Student Academic Stress Scale (SASS).
3. There is no significant difference between the post-test scores of experimental and control groups in the various components of the memory test.
4. There is no significant difference between the post-test scores of experimental and control groups on the academic achievement.

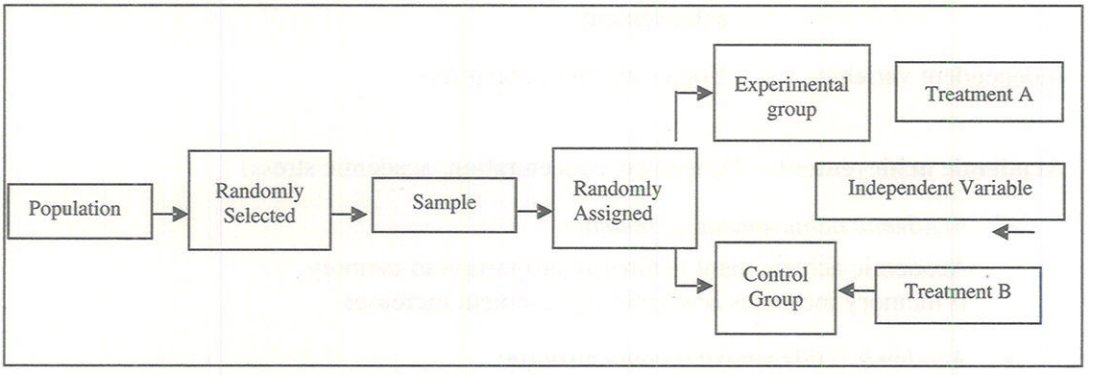
Method

The researcher fallowed the Experimental Method and chosen the two-group simple randomized design.

Two-group simple randomized design

In a two-group simple randomized design, first of all the population is defined and then from the population a sample is selected randomly. Further, requirement of this design is that items, after being selected randomly from the population, be randomly assigned to the experimental and control groups (such random assignment of items to two groups is technically described as principle of randomization). Thus, this design yields two groups

as representatives of the population. In a diagram form, this design can be shown in this way as follows:



Treatment

The main aim of the study was to study the effect of Yoga on Academic achievement. Academic achievement depends on memory, concentration and academic stress. The analysis of review literature had shown that memory and concentration can be enhanced by yogic practice. The techniques bring changes in the brain and develop memory and concentration. Academic stress is said to be reduced by the practice of Yoga and academic achievement.

To study the impact of Yoga on academic achievement in detail the investigator followed the above mentioned experimental design. The steps of experimental research is followed very carefully as the study is to know the impact of yogic techniques. The following steps are involved in the process.

1. The students from each school were divided in the two groups as experimental group (80) and control group (80).
2. Four schools were selected in Visakhapatnam, State of Andhra Pradesh, India, and the total students consists of 160 in number. The groups in each school were matched for means in the experiment.
3. The experimental group has therefore given Yoga intervention for 8 months as described below.

Yoga Intervention

- The various Asanas were taught to students that increase memory and concentration, and reduce stress.
- Various pranayama techniques were taught, especially Kapalbhati, Anulomaviloma, Bhamari.
- The students were given the treatment of Yoga-nidra, as it calms the mind and develops the left and right hemisphere of the brain.

- The practice of Mudras.
- The Shatkarmas were also used to balance the three doshas in the bodys Kapha (mucus), Pitta(bile), Vata (wind).

Sample

- Deliberate sampling is also known as purposive or non-probability sampling. This sampling method involves purposive or deliberate selection of particular units of the universe for constituting a sample which represents the universe. The researcher used judgment for selecting items which he considered as representative of the population and also suitable for his research purpose.
- The researcher selected four schools in the city of Visakhapatnam, A.P. The schools were KDPM Telugu Medium School, AU Telugu Medium School, AU English Medium School, Kendriya Vidyalaya 2. The 9th class students from A and B Sections of each school were selected. The number of students from each school was 40:20 from A section, 20 from B section. Totally 160 students were selected consisting of boys and girls. Since the work was experimental study, the researcher had chosen 40 students only from each school. The sample was taken only from the four schools for the sake of conducting experiments.

  The details of the sample taken are shown below.

Sl. No.	Name of the School	Total of No. of students	Boys	Girls
1.	KDPM Telugu Medium School	40	20	20
2.	AU English Medium School	40	20	20
3.	AU Telugu Medium School	40	20	20
4.	Kendriya Vidyalaya 2	40	20	20

- The 40 students class IX of each school were divided into two groups to constitute experimental group (20) and control group (20). The two groups were formed on the basis of the scores obtained on the special test designed by the investigator for the purpose of dividing the students into experimental group and control group.

Tools used in the study

Stroop colour and word Test used to measure attention and concentration, *student's academic stress scale (SASS)* was used to measure academic stress, *Ebbinghaus nonsense syllables list* to measure memory and *half-yearly and year-end marks* were taken to see the academic performance of the students.

Stroop colour and word test (Stroop)

In the present study, the Victoria version of stroop colour and word test developed by M. Regard in 1981 was used. This is an adaptation of the original STROOP developed by J. Ridley Stroop in 1935.

The test measures the ability of a individual to suppress his/her habitual response or capacity to change the habitual set in order to conform to the needs of an unusual demand. In short it is a measure of cognitive flexibility.

Student's Academic Stress Scale (SASS)

In the school/college situation, this pressure may be accountable for an individual's success or failure. Hence, this kind of stress i.e. academic stress is an important factors accounting for variation in academic success.

SASS is a 40 item rating scale that has been developed to identify the sources of academic stress among students. SASS was originally developed and designed by Kim (1970). The scale was adopted to Indian conditions by Rajendran and Kaliappan (1990). Srinivasan further adopted the scale in 1997. Student's academic stress scale (1997) consists of 40 items divided into five components namely,

- Personal inadequacy (F_1)
- Fear of failure (F_2)
- Interpersonal difficulties with teachers (F_3)
- Teacher-pupil relationship/teaching methods (F_4)
- Inadequate study facilities (F_5)

It is a five point rating scale varying from the response of "no stress" to "extreme stress" with regard to degree of stress. The rating scale is scored as 0-1-2-3-4. Therefore 16 (4x40) is the maximum possible score and the highest score or each factor would be 32. Each factor has equal number of items. The higher the value of the score, the greater the academic stress.

Memory test

Ebbinghaus, a German experimental psychologist was the first to study memory scientifically and to investigate the properties of human memory experimentally. To observe this process, he divided a set of item to be committed to memory that would have no previous associations, the so-called nonsense syllables in the year 1885. These consist of a sequence of consonant, vowel and consonant combinations (CVC) that do not mean anything in one's language (e.g., CAJ). He used nonsense syllables precisely because they were difficult to remember and easy to forget and because they had very little intrinsic meaning. Ebbinghaus constructed lists of 20 of these items.

Data collection

At the beginning of the experiment period a pre-test was conducted by using the various tools used for the purpose. The four tests which were administered are *Stroop, SASS test, Memory Test, Student's Academic Stress test and Academic tests* in various school subjects.

The responses given by the two groups formed the vital data required for the study and it is designated as data prior to the actual experiment or intervention.

At the end of the experiment (Yoga intervention) again the above mentioned tests were administered to the two groups. The scores of the two groups on various tests in the pre-test and post test are taken for the analysis and comparisons.

Statistical tools used for data analysis

For analyzing the data generated by the experimentation, the investigator used SPSS Package version 13.0 and Means, Standard Deviations and t-scores were calculated for the groups.

Results

The investigator presented the data in tables and graphs. The interpretation for each table and graph were presented, keeping in view the corresponding objectives and hypothesis of the present study.

Table 1: *Comparison between the post test scores of the experimental and control groups on stroop test*

Stroop Test		Control Group (n=80)	Experimental Group (n=80)	t-value
Dots Time	Mean	35.321	30.934	3.5546**
	S.D	8.243	7.342	
Dots errors	Mean	7.799	6.432	4.2812**
	S.D	1.432	2.471	
Words time	Mean	35.071	30.32	4.4455**
	S.D	5.742	7.642	
Words errors	Mean	9.213	4.43	7.2186**
	S.D	4.032	4.34	
Colours time	Mean	38.391	20.621	5.1129**
	S.D	8.742	29.831	

Colours errors	Mean	38.642	3.743	7.1241**
	S.D	33.432	28.321	
Total time	Mean	108.783	81.875	4.7896**
	S.D	22.727	44.815	
Total errors	Mean	55.65	14.6	7.11**
	S.D	38.896	35.132	

* Significant at 0.05 level. **Significant at 0.01 level

Graphical representation of the post test scores of the experimental and control groups on stroop test is given in Figure 1.

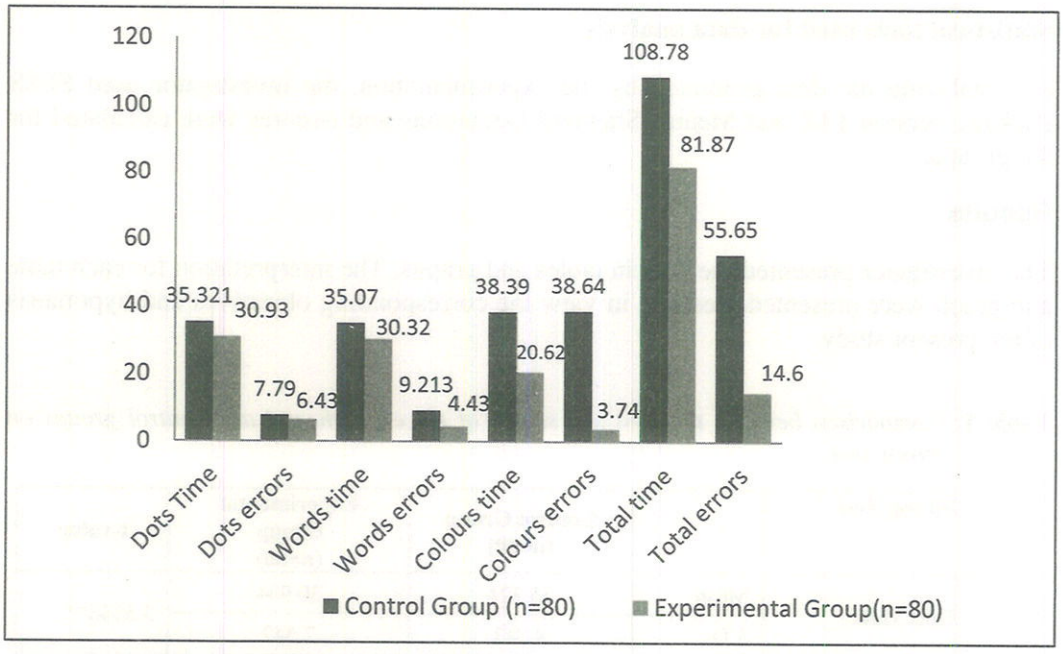


Figure 1: *Post test scores*

From the Table1 the obtained t-scores show that there is significant difference between the experimental and control groups in the post test scores in the various components of stroop test. The experimental group showed significant decrease in all the areas of the stroop test. This may be due to the effect of yoga and dance intervention received by the experimental group.

Table 2: *Comparison between the post-test scores of the experimental and control groups on SASS*

		Experimental (n=80)	Control (n=80)	t-value
Personal inadequacy	Mean	12.642	31.432	11.3192**
	S.D	9.432	11.492	
Fear of failure	Mean	21.323	30.399	6.6151**
	S.D	8.342	8.997	
Interpersonal difficulties	Mean	16.321	28.842	8.0417**
	S.D	7.492	11.742	
Teacher pupil relationships	Mean	16.322	29.33	7.8079**
	S.D	9.039	11.851	
Inadequate study facilities	Mean	21.442	27.183	4.4921**
	S.D	7.912	8.253	
Total	Mean	88.05	147.186	7.8662**
	S.D	42.217	52.335	

Graphical representation for the experimental and control groups on students academic stress scale (SASS) is given in Figure 2.

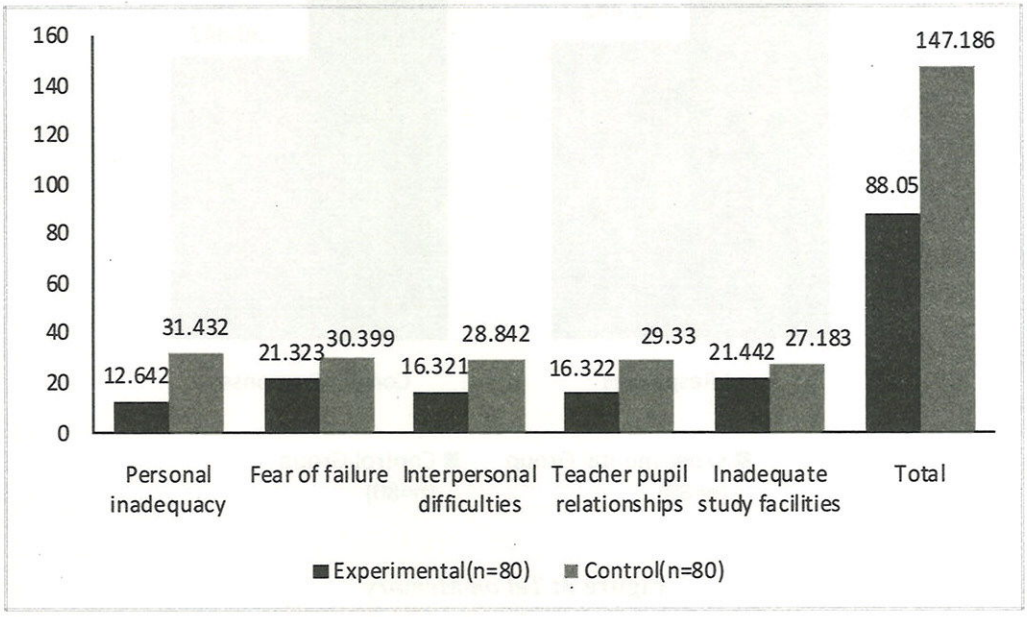


Figure 2: *Post test - SASS*

According to the Table 2 the obtained t-scores suggest that there is a significant difference between the experimental and control group in the post test scores. There is

significant difference in all the five areas of the student academic stress scale in case of experimental group. This may be due to the yoga and dance intervention received by the experimental group.

Table 3: *Comparison between the post-test scores of the experimental and control groups on memory*

		Experimental group (n=80)	Control group (n=80)	t-value
Total Responses	Mean	38.592	32.442	3.5508*
	S.D	8.642	12.852	
Correct Responses	Mean	39.859	30.842	7.7068*
	S.D	5.831	8.739	

* Significant at 0.05 level, **Significant at 0.01 level

Graphical representation for the experimental and control groups on Memory is given in Figure.

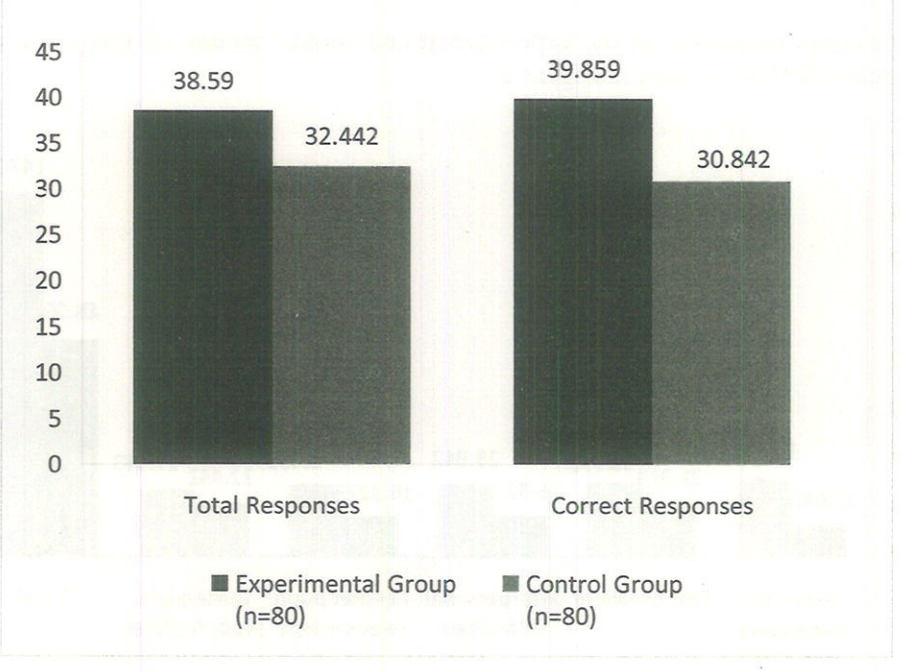


Figure 3: *Tet on Memory*

According to Table 3, t-scores suggest that there is significant difference between the post-test mean scores of the experimental and control groups on the components of the memory test that is total response and correct responses.

Table 4: *Comparison between the post test scores of experimental and control groups in academic achievements*

		Experimental Group (n=80)	Control Group (n=80)	t-value
English	Mean	62.709	52.608	3.2447**
	S.D	22.258	16.74	
Mathematics	Mean	63.893	56.357	1.5942*
	S.D	28.341	31.382	
Science	Mean	65.631	57.943	1.8574*
	S.D	25.943	26.413	
Social	Mean	73.385	68.763	1.4439
	S.D	20.743	19.743	
Telugu	Mean	63.741	58.493	1.3905
	S.D	21.843	25.74	
Hindi	Mean	82.81	61.832	5.3461**
	S.D	21.893	27.431	
Computer	Mean	69.956	72.843	0.7512
	S.D	21.574	26.763	
Total	Mean	482.125	428.839	1.9962*
	S.D	162.595	174.212	

* Significant at 0.05 level, **Significant at 0.01 level

Comparison of the post test scores of experimental and control groups in school subjects is given in Figure 4.

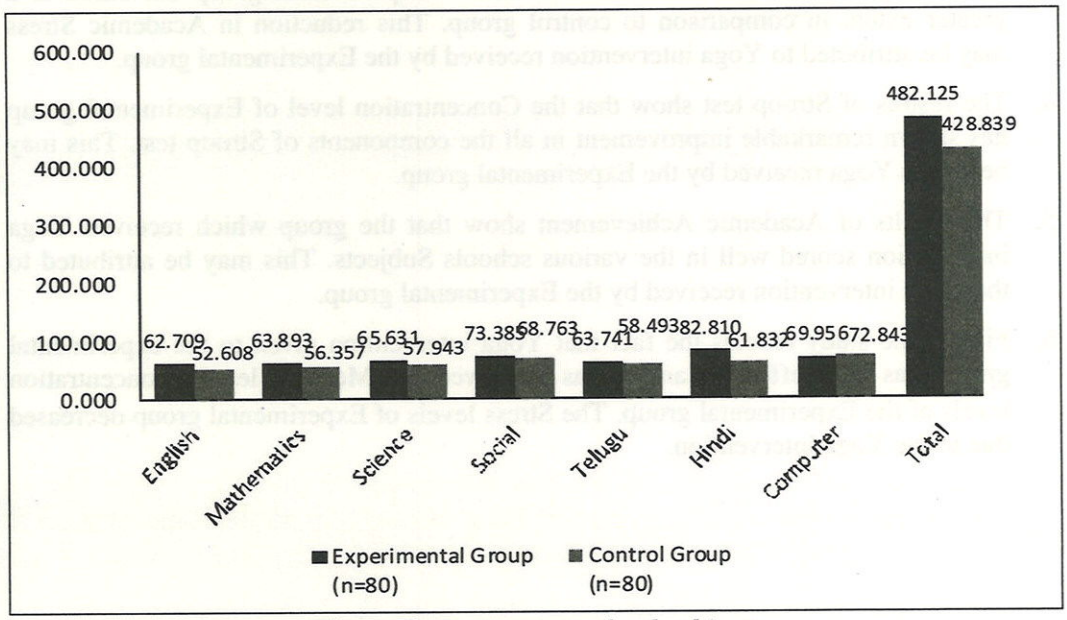


Figure 4: *Post test on school subjects*

According to the Table 4 the obtained t-scores suggest that there is significant difference between the post text scores of experimental and control groups in subjects like English, Hindi and Science. The experimental group has done extremely well in English, science and Hindi.

Conclusions

The most important objective of this Study was to examine the impact of Yoga on the Academic Achievement of Students. The factors that mostly influence Academic Achievement were considered as Memory, Concentration and Academic Stress. The whole study was directed to know the impact of Yoga on Memory, Concentration, Academic Stress and at the end on Academic Achievement. The Study was conducted with a Purposive Sample of 160 9^{th} Class Students drawn from four Schools of Vishakhapatnam and in the vicinity of investigator's residence for conducting experiments The investigation progressed by following "Two-group simple randomized design".

The inferences were drawn mostly by comparison of pre-test and post-test scores of the Experimental and Control groups. On the basis of major findings of the Study following Conclusions were drawn.

1. It is found that Yoga intervention had brought remarkable improvement in the experimental group, which has received Yoga treatment.
2. The experimental group Students had performed well in the memory test. This shows that the Memory levels of the group that received Yoga intervention has improved much.
3. The results show that the Academic Stress of Experimental group decreased to a greater extent in comparison to control group. This reduction in Academic Stress may be attributed to Yoga intervention received by the Experimental group.
4. The results of Stroop test show that the Concentration level of Experimental group has shown remarkable improvement in all the components of Stroop test. This may be due to Yoga received by the Experimental group.
5. The results of Academic Achievement show that the group which received Yoga intervention scored well in the various schools Subjects. This may be attributed to the Yoga intervention received by the Experimental group.
6. Finally the study reveals the fact that Yoga intervention given to the experimental group was very effective and it has improved the Memory levels, concentration levels of the Experimental group. The Stress levels of Experimental group decreased due to the Yoga intervention.

Implications

1. Yoga improves fitness, lowers blood pressure, promotes relaxation and self – confidence, and reduces stress and anxiety. People who practice Yoga tend to have good coordination, posture, flexibility, range of motion, concentration, sleep habits, and digestion. Yoga is a complementary therapy that has been used with conventional therapies to help treat a wide range of health problems, but it is not a cure for any particular disease.
2. All branches of Yoga mentioned above use three major techniques breathing, exercise, and meditation. These three techniques have been shown to improve health in many ways.
3. This study helps to the students for doing Yoga daily in life.
4. Government should encourage the research projects to enhance memory, reasoning ability, reduction of academic stress, increase of concentration levels by including Yoga in the School curriculum for rural students.
5. The students may be encouraged to practice to get physical fitness and respect our Culture and respect our Culture and Heritage.
6. Yoga helps in developing all round personality of Students.

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Achievement of B.Ed. students in relation to their teaching aptitude: A study on secondary teacher education institutions under Dibrugarh University

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Abstract: The main objective of the Bachelor of Education (B.Ed.) programme is to prepare effective teachers for secondary level through imparting required knowledge and development of teaching skills. The pupil-teachers are oriented to improve the skill of introducing a lesson, explaining contents, asking questions, presenting demonstration, changing stimulus, providing reinforcement, etc. and ultimately accomplish teaching-learning process effectively. Development of these teaching skills depends on the teaching aptitude of the teachers. Thus, teaching aptitude of the student-teachers plays an important role in their achievement in B.Ed. programme as well. In the present study, an attempt has been made to examine the relationship between teaching aptitude and achievement of the B.Ed. students studying in different teacher education institutions under Dibrugarh University. Sample of the study comprised of 442 B.Ed. students studying in different Secondary Teacher Education Institutions under Dibrugarh University. The finding of the study shows a significant relationship between teaching aptitude and achievement of the students in the B.Ed. programme. Moreover, there existed a significant relationship between teaching aptitude and achievement in theory papers – both overall and teaching specialization papers. However, the correlation between teaching aptitude and achievement in practical courses was found to be not significant.

Keywords: Teaching aptitude; Teacher achievement.

Introduction

Aptitude is described as a specific ability or a specific capacity distinct from the general intellectual ability, which helps an individual to acquire degree of proficiency or achievement in a specific field. It indicates how well a person can learn to meet and solve a certain kind of problem. Aptitude has been defined in a number of ways. Freeman defined aptitude as a combination of characteristics indicative of an individual's capacity to acquire (with training) some specific knowledge, skill of set of organized responses such as the ability to speak a language, to become a musician, to do mechanical work. Thus, aptitude is a specific ability which indicates the extent to which a person can acquire under suitable training, some knowledge and skill related to some

areas. Aptitude for teaching is a condition or set of characteristics including knowledge, understanding and attitude regarded as symptomatic or indicative of individuals' ability to acquire with training abilities for teaching work (Dahiya & Singh).

Achievement may be defined as the outcome reflected in performance of a student in a particular discipline or various disciplines after a certain period of instruction. An individual can attain a certain achievement when he or she acquires the ability to accomplish certain tasks or assignments. Travers (1970) states that achievement is the results of what an individual has learned from some educational experiences. Achievement is the progress pupils make towards the goals and objectives of the curriculum. It reflects one's ability or the extent of knowledge in a specific content area or subject area. Achievement is the proficiency showed by a student in different subjects in which they have achieved instruction. The performance or the results showed in the examinations are the direct evidence of achievement. Thus, achievement may be defined as the performance reflected in the result of a student after completion of a certain period of instruction.

Review of Literature

Fatima and Humera (2011) conducted a study on teaching aptitude and achievement of B.Ed. trainee teachers and reported that B.Ed. trainees had above average level teaching aptitude & high academic achievement. They also reported a positive and low co-efficient of correlation between teaching aptitude and academic achievement and found no significant difference between male and female B.Ed. trainees for both the variables.

Ushakumari (2009) studied the relationship of teacher aptitude with academic achievement and certain psychological variables of primary teacher trainees of Kerela and found a significant relationship between achievement in teacher education and teacher aptitude.

Patil (1984) studied intelligence, interest, achievement and attitude of the B. Ed college students. He found that there was no significant difference between the achievement of male and female, graduate and post-graduate and inexperienced and experienced pupil-teachers in four compulsory subjects. He also found that there was a significant difference between the scores of male and female, and inexperienced and experienced pupil-teachers in respect of intelligence but no significant difference in intelligence was found between graduate and post-graduate teachers. He found a significant difference between the scores of male and female, inexperienced and experienced pupil-teachers regarding attitude towards teaching. Female pupil-teachers had more favourable attitude than the males and experience play an important role in the development of a favourable attitude towards the teaching profession. He found no significant difference between graduate and post-graduate pupil-teachers regarding attitude towards teaching profession.

Sharma (1984) studied the teaching aptitude, intellectual level and morality of prospective teachers. He found that about 75% of student-teachers were below average

in aptitude and intellectual abilities. An insignificant difference was found in teaching aptitude in sex-wise and discipline-wise comparison.

Sharma (2006) studied the relationship of teaching aptitude, teaching competency, professional teaching and academic achievement of B.Ed. pupil teachers. He found that female arts pupil teachers secured significantly higher mean scores than the males. He also found that the teaching aptitude of pupil teachers was correlated with academic achievement. In this study, the researcher also found that, effect of academic achievement on teaching aptitude of the pupil teachers were positive but not significant at acceptable level of confidence.

Kaur (2007) studied the academic achievement, teaching aptitude and the personality traits as the predictors of success in elementary teacher education (ETE). He found that academic achievement, teaching aptitude and personality traits, all together contributed 25% to the total assessment of indicator of success in ETE course. He also found that the teaching aptitude of student-teacher had high relationship with all the indicators of success in the ETE course.

Ramakrishna (2008) studied the teaching aptitude of B.Ed. students and found a significant difference between the teaching aptitude of male and female students.

Sajan (2010) studied the teaching aptitude and academic achievement of the student teachers at graduate level and found that the female student teachers scored high in comparison to the male.

Londhe (2003) studied teaching aptitude of student teachers with reference to creativity and teaching competency. He found a significant difference between the teaching aptitude of male and female; and graduate and post-graduate student-teachers.

Gopalacharyalu (1984) studied the relationship between certain psycho-sociological factors and achievement of Student-Teachers in Teacher Education Institutes of Andhra Pradesh. He found a significant difference in all three achievement variables, namely-theory, practical and total achievement with respect to caste and he also found that attitude towards teaching profession and attitude towards training influenced theory and total achievement significantly.

Biswas, Das, Shrivastava (2002) made a study on the achievement of B.Ed. students and its associated variables. They mentioned that the achievement of B.Ed. students in theory, practical and overall found high in terms of percentage of marks secured and they also found that there was no significant difference in terms of sex.

In a study of self-esteem and teaching aptitude of DT Ed. students, Ranganathan (2008) found that there was no significant difference between male and females in terms of their teaching aptitude.

Significance of the Study

The main objective of the bachelor of education (B.Ed.) programme is to prepare effective teachers for Secondary level through imparting required knowledge and development of teaching skills. The pupil-teachers are trained to improve the skill of introducing a lesson, explaining contents, asking questions, presenting demonstration, changing stimulus, providing reinforcement, etc. and ultimately accomplish teaching-learning process effectively. Development of these teaching skills depends on the teaching aptitude of the teachers. Number of studies shows a positive relationship between teaching aptitude and achievement of student-teachers in a teacher training programme. (Ushakumari, 2009) found a significant relation of teacher aptitude with achievement in teacher education. Kaur (2007) found that the teaching aptitude of student-teacher had high relationship with all the indicators of success in the Elementary Teacher Education programme; and teaching aptitude and personality traits, all together contributed 25% to the total assessment indicators of success in ETE course. Sharma (2006) also found a significant relationship between teaching aptitude and achievement of student teachers in B.Ed. programme. Thus, teaching aptitude of the students plays an important role in the achievement of the students in B.Ed. programme as well.

Thus, in the present study, an attempt has been made to examine the relationship between teaching aptitude and achievement of the B.Ed. students studying in different teacher education institutions under Dibrugarh University.

Objectives

1. To find out the level of achievement of B.Ed. students studying in the different secondary teacher education institutions under Dibrugarh University.
2. To compare the achievement of a) Male and Female, b) Science and Arts graduate, c) Graduate and Post-graduate B.Ed. students studying in the different secondary teacher education institutions under Dibrugarh University.
3. To compare the achievement of B.Ed. students studying in the different secondary teacher education institutions under Dibrugarh University with respect to caste viz, SC/ST/OBC/General.
4. To study the relationship between achievement and teaching aptitude of B.Ed. students studying in the different secondary teacher education institutions under Dibrugarh University
5. To Study the relationship between teaching aptitude and achievement in (a) theory papers (b) teaching specialization papers and (c) teaching practical of the B.Ed. students studying in the different secondary teacher education institutions under Dibrugarh University.
6. To study the relationship between achievement in theory papers and teaching practical of the B.Ed. students studying in the different secondary teacher education institutions under Dibrugarh University.
7. To classify the B.Ed. students on the basis of their teaching aptitude scores.

Hypotheses

The following hypotheses were formulated on the basis of the objectives of the study:

H_1: There is no significant difference between a) Male and Female, b) Science and Arts graduate, c) Graduate and Post-graduate B.Ed. students as far as their achievement in the B.Ed. Final examination is concerned.

H_2: There is no significant difference between the SC/ST/OBC/General categories of B.Ed. students as far as their achievement in the B.Ed. final examination is concerned.

H3: There is a significant positive relationship between teaching aptitude and achievement of the B.Ed. students in (a) theory papers, (b) Teaching specialization papers and (c) Teaching Practical of B.Ed. students in the B.Ed. Final examination.

H4: There is no significant relationship between achievement in theory papers and teaching practical of B.Ed. students in the B.Ed. Final examination.

Patil (1984), Biswas, Das and Shrivastava (2002), Fatima and Humera (2011) found no significant difference in sex-wise, stream-wise, academic qualification-wise and caste-wise comparison of achievement of B.Ed. students. Thus in view of the existing literature null hypotheses H_1 and H_2 are formulated. Number of studies show positive relationship between teaching aptitude and achievement of student teachers in teacher training programmes such as Bachelor of Education, Elementary Teacher Education programme, etc. Kaur (2007) found a high relationship between teaching aptitude and all the indicators of success in the Elementary Teacher Education programme. Sharma (2006) found a significant positive relationship between teaching aptitude and achievement of student teachers in B.Ed. programme. Fatima, Kaneez and Humera, Syeda (2011) found a low however positive relationship between teaching aptitude and achievement of B.Ed. trainee teachers. In view of the above mentioned studies, we have formulated the directional hypotheses (H_3). No studies were found regarding the relationship between achievement of B.Ed. students in theory and practical papers, as such we have formulated null hypothesis (H_4) to test if there is any significant relationship between achievement of B.Ed. students in theory and practical papers.

Operational definition of terms

Achievement

Achievement is the result of what an individuals has learned from some educational experiences (Travers, 1970). It is the progress students make towards the goals and objectives of the curriculum prescribe for a level of learning. It is the performance reflected in the result of a student after completion of a certain period of instruction. In the present study achievement means the marks obtained by the B.Ed. students in the final examinations of theory papers and practical examinations in the year 2012.

Teaching aptitude

Aptitude for teaching is a condition or set of characteristics including knowledge, understanding and attitude regarded as symptomatic or indicative of individuals' ability to acquire with training abilities for teaching work (Dahiya & Singh, 2004). In the proposed study Teaching Aptitude means the scores obtained by the B.Ed. students in the Teaching Aptitude Scale. The B.Ed. students, who secured high score in this scale, are assumed as having satisfactory teaching aptitude.

Method

Considering the nature of research problem, the researcher has used the Descriptive Survey Method.

Population and sample

There were 12 Secondary Teacher Education Institutions under Dibrugarh University during 2011-12. The population of the present study comprised of all the students pursuing B.Ed Course during the session 2011-2012 in different 'Secondary Teacher Education Institutions' under Dibrugarh University. Considering the objectives, purposive sampling technique is used for the present study. Table 1 shows the description of the sample selected from different institutions along with their intake capacity:

Table 1: *Sample selected from different institutions along with their intake capacity*

Sl. No	Name of the Institution	Total Capacity	No. of respondent
1.	Department of Education, Dibrugarh University	66	44
2.	Parijat Academy Teacher Education Institute, Dibrugarh	60	48
3.	College of Teacher Education, Tinsukia	80	63
4.	Digboi B. Ed College	60	38
5.	Namrup College of Teacher Education	60	56
6.	K. B. M. College of Teacher Education, Jorhat	100	55
7.	Government Post Graduate Training College, Jorhat	100	45
8.	College of Teacher Education, Golaghat	75	58
9.	Lakhimpur P.G.T. College, North Lakhimpur	100	35
	Total	**701**	**442**

Tools used

Achievement test

Question papers of the B.Ed. Final examination of 2012 are considered as the achievement test in the present study. Marks obtained by the students in the B.Ed. Final examination of 2012 were collected from the offices of the sample institutions.

Teaching aptitude test

Dahiya and Singh Teaching Aptitude Test (DSTAI) constructed and standardized by Dr. Surinder S. Dahiya and Dr. L.C. Singh, was used by the researcher to collect the data. The DSTAI contains 50 multiple choice items. Each item is followed by four alternative items. The testees are to select the most appropriate answer out of the four alternatives. Each correct answer as per the 'answer-key' is given 1 point score and for wrong answer it is 0. Split-half reliability coefficient of the DSTAI is .828. Dahiya and Singh administered this scale on a sample of 217 B.Ed. students of selected colleges of education located in the state of Haryana, during the session 2001-2002. Five major factors as Factor – I, II, III, IV, V were extracted using principal Component Analysis Extraction Method and Quartinax with Kaiser Normalisation Rotation Method.

The following Table 2 shows the interpretation of TAT scores as mentioned in the manual of Dahiya and Singh teaching aptitude test.

Table 2: *Interpretation of TAT Scores*

Percentage Range	Interpretation
P_{90}-Above	Excellent
P_{90}-P_{70}	Good
P_{70}-P_{30}	Average
P_{30}-P_{10}	Low
Below P_{10}	Poor

Collection of data

The data related to Teaching Aptitude Test was collected from the different Secondary Teacher Education Institutions during the session 2011-12. The researcher took the permission to collect data from the Principals of B.Ed. institutions. The researcher administered Teaching Aptitude Test to every B.Ed. student present on the date of visit and gave the instruction about the test. The researcher strictly prohibited them to copy from others and discuss with others about the test. There was no time limit for the test. The B.Ed. students completed their Aptitude test within 20 to 25 minutes.

The researcher personally visited the different Secondary Teacher Education Institutions under Dibrugarh University for the collection of achievement scores obtained by the

B.Ed. students in the B.Ed. final examination, 2012 from the offices during the year 2013.

Results

Level of Achievement of B.Ed. students

The marks obtained by the B.Ed. students in their achievement test were used to calculate mean, median, standard deviation, skewness and kurtosis. Table 3 shows the level of achievement of B.Ed. students.

Table 3: *The level of achievement of B.Ed. students*

Variable	No. of students	Mean	Mdn	SD	Skewness (Sk)	Kurtosis (Ku)
Achievement	442	320.83	328	53.56	-1.64	5.37

From Table 3, it is clear that the mean median and standard deviation of the distribution of achievement scores of B.Ed. students were found to be 320.83, 328 and 53.56. The value of Sk (Skewness) is –1.64. Thus the distribution is negatively skewed i.e., majority of the B.Ed. students obtained high marks in the B.Ed. Final Examination-2012. The value of Ku is 5.37 and the distribution is leptokurtic in nature. It means that the scores are spread over a short range in comparison to normal distribution.

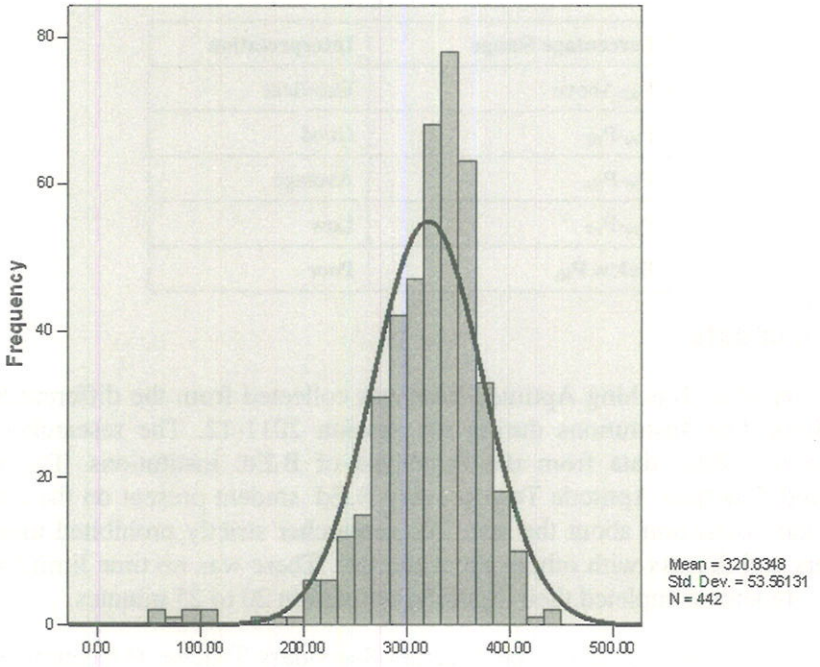

Figure 1: *The level of achievements of B.Ed. students*

Figure 1 shows the level of achievements of B.Ed. students studying in the different secondary teacher education institutions under Dibrugarh University. It is evident from the Figure 1 that majority of the B.Ed. students scored range from 320-360 in the B.Ed. Final Examination.

Level of achievement of female and male B.Ed. students

In order to study the level of achievement of the female and male B.Ed. students mean, median, standard deviation, skewness and kurtosis were calculated as shown in the Table 4 and the Table 5.

Table 4: *Level of achievement of the female B.Ed. students*

Variable	No. of female B.Ed. students	Mean	Mdn	SD	Skewness (Sk)	Kurtosis (Ku)
Achievement	334	325.56	333.5	48.22	−1.47	0.26

The value of mean, median and standard deviation of the distribution of achievement scores of female B.Ed. students were found to be 325.56, 333.5, 48.22 respectively. The value of Sk = −1.47. Thus the distribution is negatively skewed, i.e. a majority of female B.Ed. students achieved high marks in the B.Ed. Final Examination. The value of Ku = 0.26 and the distribution is leptokurtic in nature, i.e. the peak of the curve is slightly higher then the normal curve. It means that the scores are spread in a short range in comparison to normal distribution.

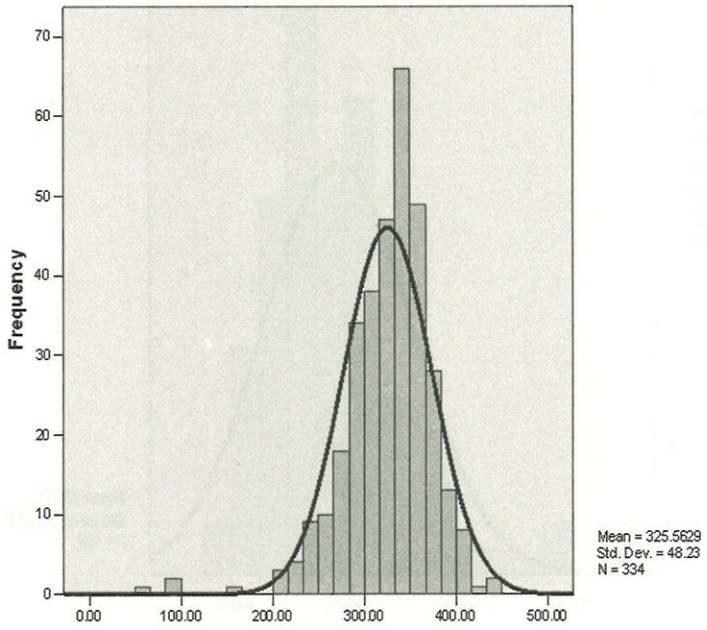

Figure 2: *The level of achievements of female B.Ed. students*

Figure 2 shows the level of achievements of female B.Ed. students studying in the different secondary teacher education institutions under Dibrugarh University. It is clear from fig-II that majority of the female B.Ed. students scored ranges from 340-350 in the B.Ed. Final Examination.

Table 5: *Level of achievement of the male B.Ed. students*

Variable	No. of male B.Ed. students	Mean	Mdn	SD	Skewness (Sk)	Kurtosis (Ku)
Achievement	108	306.21	322.5	65.56	−1.57	3.45

The mean, median and standard deviation of the distribution of achievement scores of male B.Ed. students were found to be 306.21, 322.5, 65.56 respectively. The value of Sk = −1.57. Thus the distribution is negatively skewed i.e., a majority of male B.Ed. students achieved high scores in achievement test. The value of Ku is 3.45 and the distribution is leptokurtic in nature i.e. the peak of the curve is higher than the normal curve.

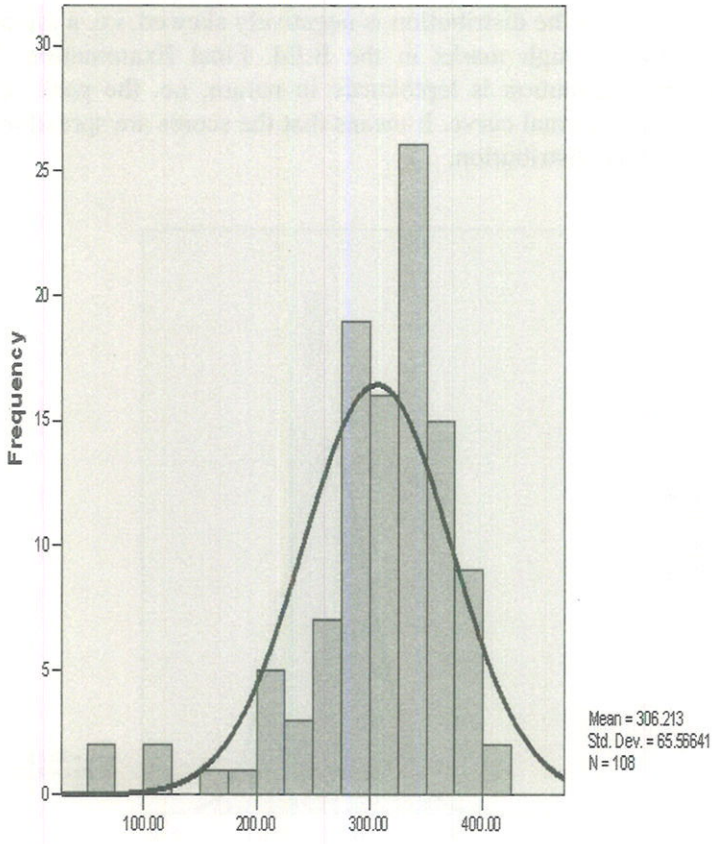

Figure 3: *The level of achievements of male B.Ed. students*

Figure 3 shows the level of achievements of male B.Ed. students studying in the different secondary teacher education institutions under Dibrugarh University. From Figure 3, it is clear that, majority of the male B.Ed. students scored in the range 320-340 in the B.Ed. Final Examination.

Comparison of achievement of male and female B.Ed. students

The 't-test' was used to compare the achievement of male and female B.Ed. students. The Table 6 shows the comparison of the achievement of male and female B.Ed. Students.

Table 6: *Comparison of achievement of male and female B.Ed. students*

Sex	N	Mean	SD	SE_D	t	df	Significance
Male	108	315.69	61.76	5.92	1.14	440	Not significant at .05 level
Female	334	322.49	50.61				

The t-value (from Table 6) was found to be 1.14, which is not significant at .05 level. Hence the null hypothesis could be accepted at .05 level. Thus, it can be concluded that there exist no significant difference between male and female B.Ed. students as far as their achievement is concerned.

Comparison of achievement of graduate and post-graduate B.Ed. students

't-test' was used in order to compare the achievement of graduate and post-graduate B.Ed. students. Table 7 shows the comparison of achievement between graduate and post-graduate B.Ed. students.

Table 7: *Comparison of achievement between graduate and post-graduate B.Ed. students*

Educational qualification	N	Mean	SD	SE_D	Df	t	Significance
Graduate	246	310.41	53.10	5.01	440	4.69	Significant at .01 level.
Post-graduate	196	333.91	51.3				

The 't-value' was found to be 4.69, which is significant at .01 level. Hence the null hypothesis could be rejected at .01 level. Thus it can be concluded that there exist a significant difference between graduate and post graduate B.Ed. students as far as their achievement is concerned.

Comparison of achievement of science and arts graduates B.Ed. students

The 't-test' was used to compare the achievement of science and Arts graduate B.Ed. students. Table 8 shows the significance of difference in the achievement of science and Arts graduate B.Ed. students.

Table 8: *Comparison of the achievement of science and arts graduate B.Ed. students*

Stream	N	Mean	SD	SE_D	Df	t	Significance
Arts	328	323.20	50.70	5.81	440	1.58	Not significant at .05 level
Science	114	314.01	60.76				

The 't' value was found to be 1.58, which is not significant at .05 level. Hence the null hypothesis could be accepted at .05 level of confidence. Thus it can be concluded that there is no significant difference between Science and Arts B.Ed. students as far as their achievement are concerned.

Comparison of achievement of B.Ed. students with respect to caste

In order to compare the achievement of B.Ed. students with respect to caste F-test was used. Table 9 shows the comparison of achievement of the SC, ST, OBC and General category B.Ed. students.

Table 9: *Comparison of achievement of B.Ed. students with respect to caste*

Caste	Sum of squares	Df	Mean square	F	Significance
Between groups	26253.85	3	8751.28	3.09	Not significant at .01 level
Within groups	1238893	438	2828.52		
Total	1265147	441			

Here 'F' value was found to be 3.09, which is not significant at .01 level. Hence the null hypothesis could be accepted at .01 level. Thus it can be concluded that there exist no significant difference between the SC/ST/OBC/General categories of B.Ed. students as far as their achievement is concerned.

Relationship between teaching aptitude and achievements of B.Ed. students in theory papers and teaching specialization papers

Product moment coefficient of correlation between (1) Teaching Aptitude and Achievement in Theory papers; and (2) Teaching Aptitude and Teaching Specialization papers are shown in Table 10.

Table 10: *Relationship between teaching aptitude and achievements in theory papers and teaching specialization papers of B.Ed. students*

Sl. No.	Variables	N	Product moment 'r'	df	Significance
1.	Teaching Aptitude and Achievement in Theory papers	442	.20	440	Significant at .01 level
2.	Teaching Aptitude and Achievement in Teaching Specialization papers	442	.13	440	Significant at .01 level

The product moment 'r' between teaching aptitude and achievement in theory paper is found to be .20 which is low but statistically significant at .01 level. Thus, there exists a significant positive correlation between teaching aptitude and achievement in theory papers.

The product-moment 'r' between the teaching aptitude and achievement in specialization papers is .13 which is very low but statistically significant at .01 level. Thus, it can be concluded that there exists a significant correlation between teaching aptitude and achievement in teaching specialization papers.

The relationship between teaching aptitude and achievement of B.Ed. students in teaching practical A and teaching practical B

As the achievement in Practical is shown in grades, the chi-square test and contingency coefficient were used to find out the relationship between teaching aptitude and achievement in teaching practical A.

The Table 11 shows the achievement of teaching aptitude and achievement in teaching practical A.

Table 11: *Teaching aptitude and achievement in teaching practical A*

		Teaching aptitude					Total
		Below 27	27-30	30-36	36-39	Above 39	
Grades in Practical A	A+	0 (0.53)	1 (0.92)	2 (2.42)	2 (1.29)	1 (0.84)	6
	A	0 (0.71)	1 (1.23)	4 (3.22)	1 (1.72)	2 (1.12)	8
	B+	5 (3.35)	4 (5.85)	16 (15.3)	7 (8.17)	6 (5.33)	38
	B	14 (15.62)	24 (27.23)	78 (71.28)	41 (38.04)	20 (24.83)	177
	C+	11 (8.65)	15 (15.1)	34 (39.47)	21 (21.06)	17 (13.75)	98
	C	7 (8.29)	20 (14.46)	37 (37.85)	18 (20.2)	12 (13.18)	94
	D+	2 (1.06)	2 (1.85)	4 (4.83)	2 (2.58)	2 (1.68)	12
	D	0 (0.79)	1 (1.38)	3 (3.62)	3 (1.93)	2 (1.26)	9
	Total	**39**	**68**	**178**	**95**	**62**	**442**

After analyzing the above data the following values of chi-squares and contingency coefficient were obtained which is given in Table 12.

Table 12: *Values of chi-squares and contingency coefficient*

Sample Size	df	Chi-square	Contingency coefficient	Significance
442	28	4.1	0.17	Not significant at .05 level

The chi-square value was found to be 4.1, which is not significant at .05 level. Thus, there is no significant relationship between teaching aptitude and achievement of B.Ed. students in teaching Practical-A.

The chi square test and contingency coefficient was used to find the relationship between teaching aptitude and achievement in practical-B of B.Ed. students. (Practical-B includes the community survey, work-experiences, question paper settings etc. And achievement in practical-B is declared in grades.)

The Table 13 shows the achievement of teaching aptitude and achievement in practical-B.

Table 13: *Teaching aptitude and achievement in practical B*

		Teaching aptitude					Total
		Below 27	27-30	30-36	36-39	Above 39	
Grades in Practical B	A+	16 (14.29)	17 (24.19)	68 (65.97)	41 (35.18)	20 (22.36)	162
	A	13 (13.41)	27 (22.69)	58 (61.9)	31 (33.01)	23 (20.97)	152
	B+	6 (6.26)	12 (10.6)	29 (28.91)	16 (15.42)	8 (9.8)	71
	B	1 (3.52)	7 (5.97)	18 (16.28)	8 (8.68)	6 (5.52)	40
	C+	2 (0.97)	1 (1.64)	6 (4.47)	0 (2.38)	2 (1.64)	11
	C	1 (0.44)	1 (.75)	1 (2.03)	0 (1.1)	2 (0.69)	5
	D+	0	0	0	0	0	0
	D	0 (0.08)	1 (.14)	0 (0.41)	0 (0.22)	0 (0.14)	1
	Total	**39**	**66**	**180**	**96**	**61**	**442**

After analyzing the above data the following values of chi-squares and contingency coefficient were obtained which is given in Table 14.

Table 14: *Values of chi-squares and contingency coefficient*

Sample Size	df	Chi-square	Contingency coefficient	Significance
442	28	9.52	0.05	Not significant at .05 level

The chi-square value was found to be 9.52, which is not significant at .05 levels. Thus, there is no significant relationship between teaching aptitude and achievement of B.Ed. students in Practical-B.

Relationship between achievement of the B.Ed. students in theory papers and teaching practical A

The Product-moment coefficient of correlation was used to find the relationship between achievement in theory papers and Practical-A. (Practical-A includes micro-teaching and practice-teaching practical)

The correlation between achievement in theory papers and practical-A is .17; therefore, there is a negligible positive correlation between achievement in theory papers and Practical-A. However it is significant at .01 level. Thus, there exist a significant relationship between achievement in theory papers and Practical-A.

Relationship between achievement of the B.Ed. students in theory papers and practical B

The Product-moment coefficient of correlation was used to find the relationship between achievement in theory papers and Practical-B. (Practical-B includes the community survey, work-experiences, question paper settings etc.)

The correlation between achievement in theory papers and Practical-B is .23; therefore there is a low positive correlation between achievement in theory papers and Practical-B. It is significant at .01 levels. So there is a significant relationship between achievement in theory papers and Practical-B.

Classification of B.Ed. students on the basis of their teaching aptitude scores

The B.Ed. students are grouped as excellent, good, average, low and poor on the basis of their scores obtained in the teaching aptitude scale. The percentiles were used to group the students as mentioned below. Those who scored in between P_{90} and above, are considered to be excellent, who scored in between P_{70} and P_{90}, were considered to be good; those who scored in between P_{30} and P_{70}, were average; those who scored in between P_{10} and P_{30} were considered as low and those who scored below P_{10} were considered to be poor with respect to teaching aptitude as shown in Table 15.

Table 15: *Distribution of students on the basis of teaching aptitude scores*

Percentile range	Percentile values	Teaching aptitude	Numbers of B.Ed. students	Percentage of students
P_{90} – above	39 and above	Excellent	61	13.8
$P_{70} - P_{90}$	36-39	Good	95	21.5
$P_{30} - P_{70}$	30-36	Average	180	40.7
$P_{10} - P_{30}$	27-30	Low	63	14.3
Below P_{10}	Below 27	Poor	43	9.7

From Table 15 it is clear that, 61 (13.8%) B.Ed. students are excellent, 95 (21.5%) B.Ed. students are good, 180 (40.7%) B.Ed. students are average, 63 (14.3%) B.Ed. students are low and 43 (9.7%) B.Ed. students are poor in respect of teaching aptitude. Thus the present study reveals that maximum B.Ed. students are average in teaching aptitude.

Discussion

It is revealed in the present study that, there is no significant difference between male and female B.Ed. students as far as their achievement in the B.Ed. final examination. The finding of the present study is in agreement with the result of the study conducted by Patil (1984). He also found that, there was no significant difference between the achievement of graduate and post-graduate B.Ed. students. But in the present study, the researcher found that, there exist significant differences between graduate and post-graduate B.Ed. students as far as their achievement is concerned.

The present study discloses that, the female B.Ed. students secured significantly higher mean scores in achievement than the males. The findings of the present study are in agreement with the result of the study conducted by Sharma (2006) and Sajan (2010). In both studies, it was found that the female student teachers secured high in achievement comparison to male.

In the present study, it is seen that, the achievement of B.Ed. students in theory, practical and overall found high in terms of percentage of marks secured. The finding of the present study is in agreement with the result of the study conducted by Biswas, Das, Shrivastava (2002). They also found that the overall achievement of B.Ed. students is high in terms of percentage of marks secured.

The present study reveals that there exists no significant difference between the SC/ST/OBC/General categories of B. Ed Students as far as their achievement is concerned. The findings of the present study are contradictory to the result of the study conducted by Gopalacharyalu (1984).

In this study, it is seen that, there exist a significant relationship between teaching aptitude and achievement in theory papers. The finding of the present study is in

consensus with the results of the study conducted by Ushakumari (2009). The study revealed that, there is a significant relationship between achievement and teaching aptitude.

The low correlation between teaching aptitude and achievement in Practical-A may perhaps be attributed to the nature of the evaluation technique adopted. The evaluation in this course is mainly the product evaluation. However, the teaching competency is best assessed through a combination of process and product evaluation. Generally, a student's achievement in Practical-A course is evaluated by a team of external and internal examiners on the basis of 5 to 10 minutes observation of classroom teaching, which is not sufficient to judge one's teaching competency.

The activities of the Practical-B course do not have direct link with teaching aptitude. This explains the low correlation between teaching aptitude and achievement in Practical-B.

Conclusion

The above study reveals that overall academic achievement of the B.Ed. students is satisfactory. It also reveals that, there is no significant difference in their performance of the female and male B.Ed. students as far as their achievement is concerned. No significant difference is found between arts and science graduate and SC/ ST/ OBC/ General categories B.Ed. students as far as achievement are concerned; but there is a significant difference between graduate and postgraduate B.Ed. students as far as achievement is concerned. The finding of the study shows a significant relationship between teaching aptitude and academic achievement of B.Ed. students.

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REFLECTION

Ethical formalism: Implication for teacher education

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Abstract: In this reflective paper, an attempt has been made to explicate some of the major ethical systems in general and ethical formalism in particular. Ethical systems are ordered principles that define what is right or good. Each of these ethical systems answers the question "What is good?" in a different way. Sometimes the same conclusion to an ethical dilemma can be reached using several different ethical systems, but sometimes using different ethical systems can result in contradictory answers to the determination of goodness. Ethical formalism says to "do one's duty," but it does not help us when there are conflicting duties. The ethics of care emphasizes relationships but is vague in providing the steps necessary to resolve ethical dilemmas. The concept of situational ethics may help to reconcile the question as to whether ethics are ultimately subjective or universal. Conclusively it may be stated that all ethical systems struggle with objectivity and subjectivity, form and content, along with respect for the individual and concern for society. Should we really think of a paradigm merger among ethical formalism, ethical relativism, situational ethics and ethics for care! Recently, Teacher Education in India has taken a major leap in terms of content and intent as well. Extended duration as given by NCTE regulation 2014and which is compulsory also for all teacher education programmes, it is high time to give a proper space for ethical formalism in the Teacher Education curriculum.

Keywords: Ethical formalism, Deontological and teleological ethical systems, Ethical relativism, Situational ethics and cultural relativism.

Introduction

Ethical systems, as Harris (1986) calls, are moral theories or moral philosophies that are systematic ordering of moral principles. Therefore, to be accepted as an ethical system, the system of principles must be internally consistent, consistent with generally held beliefs, and possess a type of "moral common sense." Baelz (1977) further described ethical systems as having the following characteristics:

- They are prescriptive. Certain behaviour is demanded or proscribed. They are not just abstract principles of good and bad but have substantial impact on what we do.
- They are authoritative. They are not ordinarily subject to debate. Once an ethical framework has been developed, it is usually beyond question.

- They are logically impartial or universal. Moral considerations arising from ethical systems are not relative. The same rule applies in all cases and for everyone.
- They are not self-serving. They are directed toward others; what is good is good for everyone, not just the individual.

We don't consciously think of ethical systems, but we use them to make judgments. For instance, we might say that a teacher who leaves his/her class unattended to go out drinking has committed an immoral act. That would be a moral judgment. Consider that the moral judgment in any discussion is only the miniscule part of the whole. If forced to defend our judgment, we would probably come up with some rules of behaviour that underlie the judgment. Moral rules in this case might be:

"Students should be attended and taught."

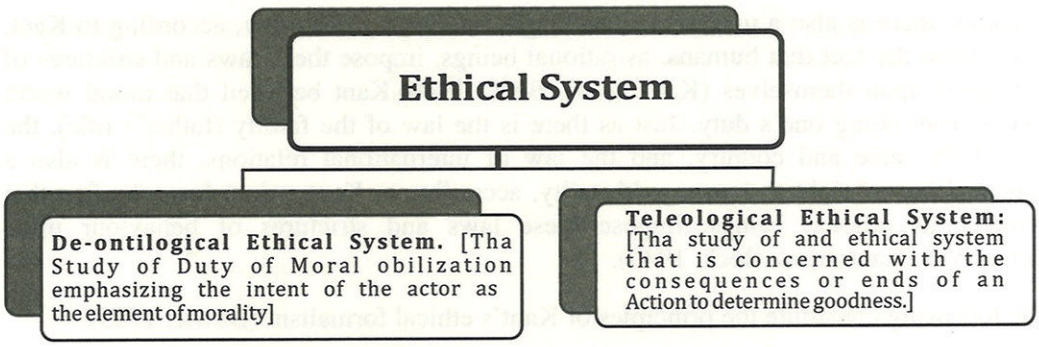
"One shouldn't drink to excess."

"Teachers should be good role models for their students."

But these moral rules are not the final argument; they can be considered the body of the whole. How would you answer if someone forced you to defend the rules by asking "why?" For instance, "Why should students be attended and taught?" In answering the "why" question, one eventually comes to some form of ethical system. For instance, we might answer, "Because it benefits society if all teachers teach and attend their students." This would be a utilitarian ethical system. We might have answered the question, "Because every teacher's duty is to teach and attend their students." This is ethical formalism or any duty-based ethical system. Ethical systems form the base of the whole. They are the foundation for the moral rules that we live by.

Deontological and teleological ethical systems

A deontological ethical system is one that is concerned solely with the inherent nature of the act being judged. If an act or intent is inherently good (coming from a good will), it is still considered a good act even if it results in bad consequences. A teleological ethical system judges the consequences of an act. Even a bad act, if it results in good consequences, can be defined as good under a teleological system. The saying "the end justifies the means" is a teleological statement. The clearest examples of these two approaches are ethical formalism (a deontological or "non-consequentialist" system) and utilitarianism (a teleological or "consequentialist" system). **Deontological** (or duty-oriented) theories of ethics (e.g., divine- command theory) assume that the first task of ethics is to determine what we are obligated to do. By doing our duty, we do what is valuable (not the other way around). Divine-command theory says that something is good for no other reason than that God commands it.



Ethical formalism

Formalism is ethical universalism made into laws that are absolute. Therefore, the content of any specific moral action has no meaning. If a universal law says, "do not cheat," then under no circumstances is cheating permissible. Immanuel Kant is one of the most important propounders of ethical formalism. In his view, no ethical theory can worry about the actual content of specific moral acts – it must make rules based exclusively on the constitution of the human will itself. This suggests that the human will can apply rules to every and all situations that confront it. It begins from the point of view of human equality and resolves itself to the idea that only universal laws decided upon in freedom can contain anything moral. In short, formalism is the view that theoretical information about an object, or practical guidance about how to treat it, is to be derived from attention to its form rather than its matter or content. Kant argued that in order to determine whether an action is right, we should attend to the form of the "maxim" or principle on which the agent proposes to act. The categorical imperative tells us to act only on maxims, which can serve as universal laws. Suppose an agent proposes to perform a certain action in order to realize a certain end. We should ask whether everyone with this end could rationally act on this maxim. Some maxims would be contradictory or self-defeating if everyone acted on them, and these are ruled out by morality. Since the question is whether the action and the purpose, the "matter" of the maxim, can be combined in a principle which can function as a universal law, it is a question about the maxim's functional construction --- in the Aristotelian sense, its form.

Ethical formalism is a deontological system because the important determinant for judging whether an act is moral is not its consequence, but only the motive or intent of the actor. According to the philosopher Immanuel Kant, the only thing that is intrinsically good is a good will. On the one hand, if someone does an action from a goodwill, it can be considered a moral action even if it results in bad consequences. On the other hand, if someone performs some activity that looks on the surface to be altruistic but does it with an ulterior motive—for instance, to curry favour or gain benefit—that act is not moral.

Kant believed that moral worth comes from doing one's duty. Just as there is the law of the family (father's rule), the law of the state and country, and the law of international

relations, there is also a universal law of right and wrong. Morality, according to Kant, arises from the fact that humans, as rational beings, impose these laws and strictures of behaviour upon themselves (Kant, trans. Beck, 1949).Kant believed that moral worth comes from doing one's duty. Just as there is the law of the family (father's rule), the law of the state and country, and the law of international relations, there is also a universal law of right and wrong. Morality, according to Kant, arises from the fact that humans, as rational beings, impose these laws and strictures of behaviour upon themselves (Kant, trans. Beck, 1949).

The following constitute the principles of Kant's ethical formalism (Bowie, 1985):

- *Act only on that maxim through which you can at the same time will that it should become a universal law.* In other words, for any decision of behaviour to be made, examine whether that behaviour would be acceptable if it were a universal law to be followed by everyone. For instance, a student might decide to cheat on a test, but for this action to be moral, the student would have to agree that everyone should be able to cheat on tests.

- *Act as if you were, through your maxims, a law-making member of a kingdom of ends.* This principle directs that the individual's actions should contribute to and be consistent with universal law. However, the good act must be done freely. If one is compelled to do a good act, the compulsion removes the moral nature of the act. According toKant, *hypothetical imperatives* are commands that designate certain actions to attain certain ends. An example is, "If I want to be a success, then I must do well in college." By contrast, *categorical imperatives* command action that is necessary without any reference to intended purposes or consequences. The "imperative of morality" according to Kant needed no further justification (Kant, trans. Beck, 1949).

Ethical formalism is "considered as an absolutist system, based on logic and reason, if something is wrong, it is wrong all the time" (Pollock, 2004). Just the same, if something is right, it is then right all the time such as murder or lying. To assassinate evil tyrants such as Adolf Hitler, Saddam Hussein, or Osama Bin Laden might be considered moral under a teleological system because ridding the world of dangerous people is a good end. However, in the deontological view, if the act and intent of killing are wrong, then killing is always wrong; thus, assassination must be considered immoral in all cases, regardless of the good consequences that might result.However, this understanding no longer holds good as the modern paradigms of ethical reality is more or less governed by fallibilist and interpretive view of ethical reality.

Criticisms of ethical formalism include the following (Maestri, 1982):

- *Ethical formalism seems to be unresponsive to extreme circumstances.* If something is wrong in every circumstance regardless of the good that results or good reasons for the action, otherwise good people might be judged immoral or unethical.
- *Morality is limited to duty.* One might argue that duty is the baseline of morality, not

the highest aspiration of it. Further, it is not always clear where one's duty lies. At times one might face a dilemma where two duties conflict with each other.

- *The priority of motive and intent over result is problematic in some instances.* It may be seriously questioned whether the intention to do good, regardless of result or perhaps with negative result, is always moral. Many would argue that the consequences of an action and the actual result must be evaluated to determine morality.

Ethical formalism is also a type of ethical theory that defines moral judgements in terms of their logical form (e.g., as "laws" or "universal prescriptions") rather than their content (e.g., as judgements about what actions will best promote human well-being). The term also often carries critical connotations.

In The Language of Morals (1952) and Freedom and Reason (1963), Hare attempts to discover these conditions which are necessary and sufficient for calling a judgment "Moral''. He seeks an analysis that will account for the fact that morality is a rational endeavour.

Hare's position as a mathematical formalist will be clear from the following formulations (Rahman, 1978):

i) (X) (X is a moral judgment if and only if (a) X is prescriptive and (b) the agent is willing to universalize X).

ii) "X is prescriptive means" X is an imperative as X entails an imperative.

iii) "To universalize X" means to accept that X holds for everyone, even the agent, in similar circumstances.

This characterization is formalism because it characterizes morality without at any time making reference to the content of moral judgments. Whether as not judgment is moral depends solely on logical or quasi-logical properties of the judgment namely, whether as not it is prescriptive and universalizable any judgment whatever its content, whatever it in fact prescribes is moral if it meets these two conditions.

Kent offends the following characterisations of morality:

i) (X) (X is a system of rational morality if and only and if the meanings of the action prescribed in X are universalizable.

ii) "X is universalizable" means general action on the basics of X would leave secure the freedom of every rational being. It appear that Kant would agree that moral judgment are prescriptive to say that one morally ought to do so and so, according to Kant, is to offer finitely, rational being. The impossibility of meaningfully offering imperatives of morality and fully rational belongs in Kant's reason of claiming that it is absurd to say for examples, that God ought to do so and so. The crucial issue however is universalizability.

The universalizability of a judgment, is not determine by any objective state of affairs in the agent's environment, but only by what the agent is on is not willing to put up with.Kant has been criticized for defining morality in terms of the formal feature of being a "universal law", and then attempting to derive from this formal feature various concrete moral duties. But, Scheler appears to be firmly convinced of what an ethical theory, aiming to be scientific and rigorous, should do. First of all, far from being banished only to its theoretical dimension, ethics should elaborate and formulate principles able to provide a concrete practical guidance for human actions. In the Preface to the second edition of the Formalism, Scheler indeed claims that ethics is a "damned bloody affair, and if it can give me no directive concerning how I should live now in this social and historical context, then what is it?" (Scheler 1973, Preface to the second edition, xxxi). Moreover, in order to be a secure guidance for the actions, ethics should rest on roots much more robust than those on which ethics have been grounded so far. Indeed, only by providing a robust foundation to ethics, those tendencies that have tried to put into question the strength of ethics such as moral skepticism and relativism might be definitely defeated. Agreeing with Kant, Scheler believes that commonsense ethical theories and utilitarian principles cannot serve this purpose (Blosser, 2002), mainly because of their incapacity to ground an a priori ethics.

Utilitarianism is a teleological ethical system -- what is good is determined by the consequences of the action. Jeremy Bentham (1907), a major proponent of utilitarianism, believed that the morality of an action should be determined by how much it contributes to the good of the majority. According to Bentham, human nature seeks to maximize pleasure and avoid pain, and a moral system must be consistent with this natural fact. The "utilitarian doctrine asserts that we should always act so as to produce the greatest possible ratio of good to evil for everyone concerned" (Barry, 1985). That is, if one can show that an action significantly contributes to the general good, then it is good. Although utilitarianism is quite prevalent in our thinking about ethical decision making, there are some serious criticisms of it:

- All "pleasures" or benefits are not equal. Bentham did not judge the relative weight of utility. He considered pleasure to be a good whether it derived from vice, such as avarice or greed, or from virtue, such as charity and kindness. Later utilitarians, primarily John Stuart Mill, believed that utilities (benefits) had different weights or values. In other words, some were better than others. For instance, art offers a different utility for society than alcohol; altruism carries more benefit than pleasure, and so on. But who is to determine which is better? Determining what is good by weighing utilities makes sense, but the actual exercise is sometimes very difficult.

- The system presumes that one can predict the consequences of one's actions. In the well-known "lifeboat" dilemma, five people are in a lifeboat with enough food and water only for four. It is certain that they will survive if there are only four; it is also certain that they will all perish if one does not go overboard. What should be done? Under ethical formalism, it would be unthinkable to sacrifice an innocent, even if it means that all will die. Under utilitarian ethics, it is conceivable that the murder of

one might be justified to save the others. But this hypothetical situation points out the fallacy of the utilitarian argument. In reality, it is not known whether any will survive. The fifth might be murdered, and five minutes later a rescue ship appears on the horizon. The fifth might be murdered, but then the remaining four are eaten by sharks. Only in unrealistic hypothetical situations does one absolutely know the consequences of one's action. In real life, one never knows if an action will result in a greater good or ultimate harm.

- There is little concern for individual rights in utilitarianism. Ethical formalism demands that each individual must be treated with respect and not be used as a means to an end. However, under utilitarianism, the rights of one individual may be sacrificed for the good of many. For instance, in World War II, Winston Churchill allowed Coventry to be bombed so the Germans would not know the Allies had cracked the Germans' secret military radio code. Several hundred English people were killed in the bombing raid of Coventry. Many might have been saved if they had been warned. It was a calculated loss for greater long-term gains—bringing the war to an end sooner. This could be justified under utilitarianism but perhaps not under ethical formalism.

Ethical relativism describes the position that what is good or bad changes depending on the individual or group, and that there are no moral absolutes. What is right is determined by culture and/or individual belief; there are no universal laws. There are two main arguments for relativism. The first argument is that there are many different moral standards of behaviour. According to Stace (1995), "We find that there is nothing, or next to nothing, which has always and everywhere been regarded as morally good by all men." The second argument is that humans are incapable of determining what, if anything, is an absolute rule of morality. Who is to say what is right and what is wrong? One may look to anthropology and the rise of social science to explain the popularity of moral relativism. Over the course of studying different societies—past and present, primitive and sophisticated—anthropologists have found that there are very few universals across cultures. Even those behaviours often believed to be universally condemned, such as incest, have been institutionalized and encouraged in some societies (Kottak, 1974). Basically, cultural relativism defines good as that which contributes to the health and survival of society. As examples, societies where women are in ample supply may endorse polygyny, and societies that have a shortage of women may accept polyandry. Hunting and gathering societies that must contend with harsh environments may hold beliefs allowing for the euthanasia of burdensome elderly, whereas agricultural societies that depend on knowledge passed down through generations may revere their elderly and accord them an honoured place in society.

Cultural relativists recognize that cultures have very different definitions of right and wrong and moral relativists argue that there are no fundamental or absolute definitions of right and wrong. In opposition to this position, absolutists argue that just because there may be cultural norms endorsing such things as cannibalism, slavery, or having sex with seven year olds, the norms do not make these acts moral. Although cultural

relativism holds that different societies may have different moral standards, it also dictates that individuals within a culture conform to the standards of their culture. Therein lies a fundamental flaw in the relativist approach: If there are no universal norms, why should individuals be required to conform to societal or cultural norms? If their actions are not accepted today, it might be argued, they could be accepted tomorrow—if not by their society, perhaps by some other. An additional inconsistency in cultural relativism is the corresponding prohibition against interfering in another culture's norms. The argument goes as follows: Because every culture is correct in its definitions of morality, another culture should not step in to change those definitions. However, if what is right is determined by which culture one happens to belong to, why then, if that culture happens to be imperialistic, would it be wrong to force cultural norms on other cultures? Cultural relativism attempts to combine an absolute (no interference) with a relativistic "truth" (there are no absolutes). This is logically inconsistent (Foot, 1982).

Cultural relativism usually concerns behaviours that are always right in one society and always wrong in another. Of course, what is more common is behaviour that is judged to be wrong most of the time, but acceptable in certain instances. As examples: killing is wrong except possibly in self-defence and war; lying is wrong except when one lies to protect another. Occupational subcultures also support standards of behaviour that are acceptable only for those within the occupation. Relativism allows for different rules and different judgments about what is good. Universalists would argue that if moral absolutes are removed, subjective moral discretion leads to egoistic (and nationalistic) rationalizations.

Hinman (1998) resolves this debate by defining the balance between absolutism and relativism as moral pluralism. In his elaboration of this approach, he stops short of an "anything goes" rationale but does recognize multicultural "truths" that affect moral perceptions. The solution that will be offered here, whether one calls it situational ethics or some other term, is as follows:

1) There are basic principles of right and wrong.
2) These principles can be applied to ethical dilemmas and moral issues.
3) These principles may call for different results in different situations, depending on the needs, concerns, relationships, resources, weaknesses, and strengths of the individual actors.

Conclusion

In this paper, an attempt has been made to explicate some of the major ethical systems in general and ethical formalism in particular. Ethical systems are ordered principles that define what is right or good. Each of these ethical systems answers the question "What is good?" in a different way. Sometimes the same conclusion to an ethical dilemma can be reached using several different ethical systems, but sometimes using different ethical systems can result in contradictory answers to the determination of goodness. Ethical formalism says to "do one's duty," but it does not help us when there are conflicting

duties. The ethics of care emphasizes relationships but is vague in providing the steps necessary to resolve ethical dilemmas. The concept of situational ethics may help to reconcile the question as to whether ethics are ultimately subjective or universal. Conclusively it may be stated that all ethical systems struggle with objectivity and subjectivity, form and content, along with respect for the individual and concern for society. Should we really think of a paradigm merger among ethical formalism, ethical relativism, situational ethics and ethics for care!

Teacher Education Programme in India has taken a major leap in terms of its contents and intents as well. New contents of the curriculum in general and axiological contents in particular demand paradigms merger. Extended duration as given by NCTE regulation 2014 and which is compulsory also for all teacher education programmes provides an extended opportunity to bring in those pertinent contents which are generally left unattended due to shortage of time, from the periphery to its centre. It is high time to give a proper space for ethical formalism in the Teacher Education curriculum. It will help teacher educators to orient would be teachers to be ethically just and how to become not only efficient practitioners who can take right decision in a given dilemmatic circumstances but also how to take decisions which are ethically correct for the sake of ethically just democratic society.

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Book Review

NCERT (2012). *Basics of Education* (Textbook for B.Ed. course). New Delhi: NCERT. ISBN: 9789350072837

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The textbook '*Basics of Education*' is one of the core components of two year B.Ed. programme, introduced by NCERT recently. It aims to help the student-teachers understand and analyse diverse concepts related to education, their premises and contexts. It discusses crucial concepts like the nature and goals of education, the process of education, different forms of knowledge and the process of knowing, organization of knowledge in school curriculum, autonomy of teachers and learners, and the role of education in inculcating values among children. The text book is written in a self instructional format, which provides the student-teachers with considerable scope for engaging with the process of inquiry, critical analysis and intellectual discourse.

The text book is comprised of eleven chapters named as – Concept and Meaning of Education, Goals of Education, Processes and Modes of Education, Knowledge: Meaning and Facets, Process of Knowing, Organization of Knowledge in Schools, Teacher Autonomy and Accountability, Learner Autonomy, Values: Concepts and Context, Education and Values; and Values in Emerging Social Context. Each chapter, in addition to relevant context, consists of structure of the chapter, objectives of the chapter, learning checks, activities, summary, review questions and references/further readings. This provides adequate opportunity to the student-teachers to engage with those concepts.

Chapter one analyses various perspectives and views on the concept of education, explains the concept of education as an initiation process in the Western and the Eastern perspectives, explains the concept of education as a worthwhile activity in the context of school education, differentiates between education as a natural process and as a social process with suitable illustrations, highlights the dimensions of education and their relevance, and explains the role and need of institutions in the educating the individuals. This chapter is indeed helpful for student-teachers for understanding the conceptual dimension of education i.e. education as a man making process. Its dynamic feature helps the student-teachers to develop insight and ability of critical analysis in order to become effective teacher.

Chapter two explains the basis of educational goals, describes major characteristics of educational goals, analyses the basis of educational goals in the present context of Indian

society, examines the rationale of educational goals articulated in the reports of various commissions and policy documents, describes how educational goals influence the content and process of education, formulates desirable goals of education in India for the second decade of the twenty first century. This chapter delineates the process of formulating present and future aspirations of the society and its vision about an educated person. It is also helpful in sensitizing student-teachers for creating knowledge driven society, building nation as a strong economic power, for technological advancement of country and for inculcating progressive attitude amongst the members of Indian society.

Chapter three explains the processes of education, distinguishes between education as an activity and as a process, differentiates between different modes of education, and analyses the linkage between schooling and the outside experiences. This chapter focuses on human experience in formal, informal and non-formal setting. It also helps student-teachers to know that the education is a product of social aspirations, national priorities and futuristic perspectives of the individuals and the society.

Chapter four highlights concept of knowledge, sources of knowledge and their corresponding ways of knowing; identifies and classifies knowledge in different forms, and helps in becoming conscious of the critical role of culture in the knowledge formation process in school context. This chapter states that school is an active agency of education, which writes-down, transacts, and transforms the knowledge with the learner towards human development. The discussion of knowledge aspect in the schools, which helps the student-teachers in better understanding of the curriculum, is related to information, belief and truth pertaining to knowledge.

Chapter five describes the meaning of knowledge, process of knowledge construction and enumerates the relative roles of knower and known in knowledge transmission and construction. This chapter clarifies the nature of knowing process of various things happening around the world. Lived experiences are great sources of knowledge. The sense perception, language, reason and emotions play significance role in the process of knowledge construction. Constructing knowledge has been emphasized on activation of existing knowledge and communication among the stakeholders of education. This may provide student-teachers an engaging opportunity for construing knowledge related concepts in an analytical manner.

Chapter six describes the meaning of knowledge organization, appreciates different forms in which knowledge is organized in the schools, explains the methods of organizing knowledge, enumerates the agencies responsible for developing syllabi in India; and explains the process of developing curricula, syllabi and textbooks in the country. This chapter gives practical example of the nature of knowledge organization in school and its utility in day to day life. The curriculum of the school includes different forms of knowledge such as language, mathematics, science, social sciences, arts education, health and physical education and work experiences, which help the student teachers towards better understanding of the curricular aspects of the school.

Chapter seven describes the concept and importance of teacher autonomy, analyses critically the factors that influence teacher autonomy, outlines the strategies that may be adopted to develop autonomy among teachers, explains the role of accountability in realizing the objectives of educational system and critically evaluates the contemporary scenario with respect to teacher autonomy and accountability. This chapter analyses the concept of teacher autonomy in reference to freedom. The teacher autonomy is classified into positive and negative categories. Autonomy and accountability of teacher have been discussed and analysed critically, which help the student-teachers to develop conceptual clarity regarding teacher's responsibilities in schools.

Chapter eight explains the factors affecting learner autonomy, differentiates between the nature of learner and the teacher autonomy, and describes how learner autonomy can be fostered in the school context in order to fulfill societal responsibility. The chapter defines the learner autonomy and teacher autonomy in a given school setting.

Chapter nine describes the meaning of values, role of values in everyday life, absolute value, significance of values for human being, process of developing values in the present day context. This chapter accentuates that values are created by positive thoughts and it leads to reach the destiny of one's life. It helps the student-teachers to develop positive attitude towards school environment as well as towards life.

Chapter ten identifies the challenges that come across the value nurturing potentials of schools, explains the integrated and holistic approach to education for values and explores opportunities inherent in the curriculum for developing values. This chapter guides student-teachers to understand teacher's role in value integration in school curriculum and helps them in adopting the effective procedure for value creation in school environment.

Chapter eleven describes the diverse perspectives on values, explains the effect of value conflicts on the school system, and elucidates the role of education in transforming values. This chapter helps the student-teachers to improve their own actions towards human welfare and integrate social values for the development of a nation. This book is a meaningful resource for pupil-teachers, teachers, teacher educators and all stakeholders of the schooling system in our country.