

Education for Development

A SOCIO-TECHNOLOGICAL APPROACH OF ADDRESSING DISTANCE EDUCATION ISSUES IN DEVELOPING & DEVELOPED COUNTRIES

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Why Socio-technological Approach for Distance Education

- 6 out of 7 billion people in the world live in developing countries and nearly half of them survive on less than \$2 a day (UN, 2013).
- There are 4 billion people in the world who are not using the Internet & more than 90% of them are from developing countries. Growth rates in mobile telco are currently fastest in the poorest regions (ITU, 2014).
- Bangladesh has 160 million people with 73% mobile penetration. More than 90% of Internet users (40m) are mobile narrowband subscribers but 97% of homes do not have telephone lines (BuddeComm, 2014).
- 60-70% of students in Bangladesh leave school without completing Grade 10 while more than a third (37%) before Grade 12. Country's 90 universities can take less than 10% of aspirant students (BANBEIS,'13).

Why Socio-technological Approach for Distance Education

- In India, 70% of its population will be of working age by 2025 and it requires 460,000 physical classrooms, 40 million places in higher education and universal access to secondary education.

University	Monash / OUA	Cambridge / OU UK	Dhaka Uni / BOU
Country	Australia	The UK	Bangladesh
No. of students	50,000 / 60,000	18,000 / 200,000	63,000 / 486,000
Tuition fees (per annum in US\$)	18,000 – 22,000	13,500 – 20,000	50-100 (public)* 1000-1500 (private)
THE ranking (2017)	74 / -	4 / 401-500	601-800 / -

- Commercialization of education in the developed countries widens the gap in the society & makes it almost inaccessible to low-middle class.
- All aspects of life in the 21st century will be increasingly digital, and those without ICTs will be increasingly excluded.

Why Socio-technological Approach for Distance Education

*“If we continue to leave vast sections of the people of the world outside the orbit of education, we make the world not only less just, but also less **secure**”* (Amartya Sen, 2003). Now if we want to equalize opportunities for education, we need to ask the following questions:

1. What type of education is required and appropriate? (e.g. general/technical/integrated)
2. How are members of the population to be reached? (e.g. online/face-to-face/blended)
3. What is our responsibility in terms of enabling meaningful education to be offered in an affordable way? (policy makers/educators/others)



Part 1: Theoretical Development in DE

- Adapting Structuration Theory In Distance Education (ASTIDE)

Part 2: Impact Study

- Impact of ASTIDE framework on distance education in developing and developed countries

Transactional Distance Theory [TDT] – Moore (1993)

TDT interacts with 4 variables- dialogue, structure, learner's autonomy, and transactional distance*, which are interrelated in the following ways:

- ❑ Dialogue and transactional distance are inversely proportional;
- ❑ If program structure increases, the extent of dialogue decreases, which in turn increases transactional distance; and
- ❑ The greater the structure and the lower the dialogue in a program the more autonomy the learner has to exercise, which eventually increases transactional distance.

**a space (psychological & communications) of potential misunderstanding between the inputs of instructor and those of the learner.*

Transactional Distance Theory [TDT] – (cont.)

TDT has a number of potential drawbacks:

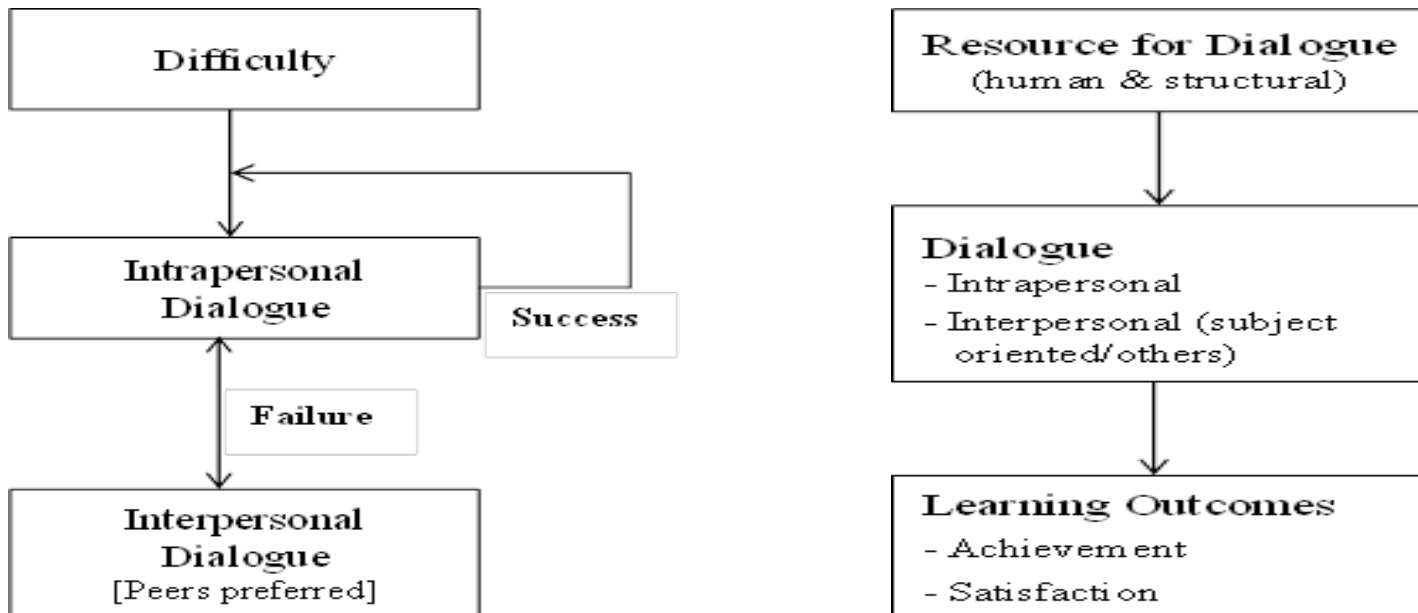
- Its constructs are not operationally defined and its variables does not link with learning outcomes,... compromises construct validity.
- Place of autonomy is not clear as with high level of learner autonomy, one could have low structure and low dialogue and still have low transactional distance, which is a contradiction to Moore's theory.

Therefore, TDT be reduced to a single proposal (dialogue increases, transactional distance decreases). This suggestion cannot pass for a theory but it can suffice as a tautology.

Theory of Instructional Dialogue [IDT] – (Gorsky & Caspi, 05)

IDT overcomes the limitation of TDT and it considers:

Every element in an instructional system is either a dialogue (intrapersonal/interpersonal) or a resource (structural/human) which supports dialogue; dialogues and learning outcomes are correlated.



Theory of Instructional Dialogue [IDT] – (cont.)

Intrapersonal Dialogue

(mediates learning and is defined by the interaction between learner and subject matter by means of given structural resources)

Structural Resources

(self instructional texts, TV & radio program, web based instructional system, simulation, tutorial, etc.)

Human Resources

(student characteristics by his age, goals, prior knowledge, motivation, learning styles.)

Interpersonal Dialogue

(facilitates learning and is defined by the interaction between students, teachers and peers of type inquiry, conversation, instruction or debate)

Structural Resources

(instructional design, group size and accessibility of students and teachers)

Human Resources

(instructors - conception of teaching, facilitation skills and students – autonomy, acquisition with fellow students, perceived course difficulty)



Issues with Existing DE Theories

Existing theories do not represent a global DE theory, for 5 key reasons:

- Current theories relate specifically to instruction, which can be a part of a broader theory (Aktaruzzaman & Plunkett, 2016);
- DE has to be examined with respect to developmental studies in order to be relevant in the ICT4D field (Heeks, 2008);
- DE theorists have not addressed the policies and practices that underlie the DE system (Arts & Van Tatenhove, 2004);
- The core ideology in current theories is centred in interaction or dialogue, and thus limited to being two dimensional (Subotzky & Prinsloo, 2011);
- Role of technology is not defined in existing theories (Anderson, 2010).

Structuration Theory [ST] – Giddens (1984)

Sociology deals with society (how it is organised - structures) and social action (how society is made possible – agents). A classic polarisation of sociological theories is,

“Structuralist sociologists see human agency as subdued to structural forces whereas those focusing on human agency, that actor is the creator or interpreter of social life” (Anderson, 2010, pp. 54-55)

Giddens (1984) views social life as “neither the experience of individual actors, nor the existence of any form of social totality but social practices ordered across space and time” (p. 2). This implies structure not only shapes what we do (medium) but is also shaped by our actions or practices (outcome), which Giddens refers to as the “duality of structure” (p. 25).

Adapting Structuration Theory In Distance Education (ASTIDE)

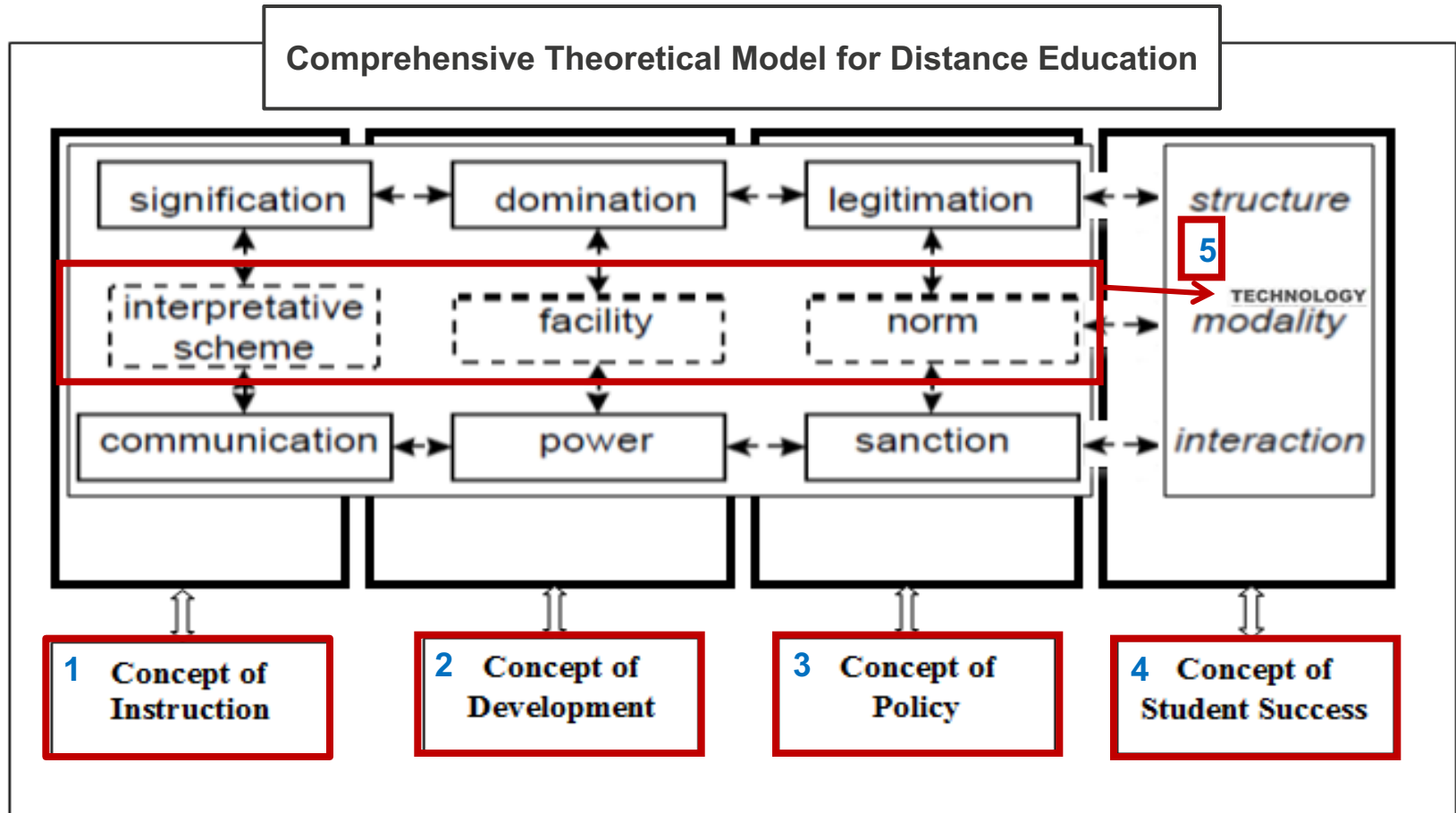


Figure 1. ASTIDE Model (Source: adapted from Giddens, 1984, p. 29)

ASTIDE Model (Adapting the 1st Triad of ST)

Adapting the concept of instruction into the 1st triad (communication-interpretive scheme-signification): Halperin and Backhouse(2007) propose a 3-layered framework to capture the learners' interpretive scheme and relate to technology use in a practice specific domain (p.10):

- Underlying beliefs about the learning practice: They claim that simple memorisation will serve if someone believes that knowledge is not critical and no need of using deeper processing, which resembles IDT.
- Assumptions about effectiveness in learning practice: They describe two types of interaction underlying effective learning- interaction with resource and interaction with peers/teachers, which coincides with IDT.
- Perceived role of technology in accomplishing the practice (5th triad).

ASTIDE Model (Adapting the 2nd Triad of ST)

Adapting the concept of development into the 2nd triad (power-facility-dominance): Giddens (1984) refers to the 'transformative capacity' as the capacity of the human agency to make a difference (development) at the individual/organisational level, given that opportunity (facility) is provided.

The second triad accommodates various concepts of development such as 'freedom as development' (Sen, 1999), paradigm of ICT in development (Sein, 2005), social business approach (Yunus, 2007) and integration of developmental studies in DE (Heeks, 2008).

Sen (1999) considers that freedom (social/political/economic) is the ends and means of development and every individual should have the flexibility to realize one's potential in leading an enjoyable life.

ASTIDE Model (Adapting the 2nd Triad of ST)

Yunus (2007) introduces social business model, at which the investors/owners can gradually recoup the money invested, but cannot take any dividend beyond that point and its sole purpose is to achieve one or more social objectives (education, health, technology access, and environment).

The inclusion of developmental studies will guide posthoc activities such as impact assessment of ICT4D projects, as well as prehoc activities that seek to realise needs analysis, design & implementation of theory into practice, thus fitting appropriate ICTs into development processes (Heeks, 2008).

For instance, [Flexible Boat School Project in Bangladesh](#). It is a creative way to ensure year-round access to education in flood-prone communities, claimed to disrupt 2.8 billion people worldwide by climate change. It also provides healthcare and sustainable agriculture to the community.

ASTIDE Model (Adapting the 3rd Triad of ST)

Adapting the concept of policy into the 3rd triad (sanction-norm-legitimation): Halperin and Backhouse (2007) and Rose (1998) are limited to the very basic development of policy framework such as defining formal and informal norms and different sanctioning.

From the duality of structure in ST, Van Tatenhove, Arts and Leroy (2000) have identified four dimensions of an organization – agents (coalitions), rules (norms) and resources (facilities), and policy discourse (interpretive scheme), which are essentially interrelated to explain different processes.

For instance, coalition process. Each coalition comprises a number of agents who share resources and/or interpret policy discourse within the domain of rules of process to identify and achieve similar policy goals.

ASTIDE Model (Adapting the 3rd Triad of ST)

The collated policies are then institutionalized, which is, “a process of structuration and stabilisation by which policy arrangements are produced, reproduced or transformed” within the context of long term processes of societal and political change (Van Tatenhove et al., 2000, p. 53).

The key themes of the change process are practices through “agents-in-interaction” & policies through “long-term structural transformations” (p. 53).

A comprehensive framework usually acts as interplay between existing policies, ongoing practices and future challenges that link the long-term process of socio-political change with specific processes of policy design and enactment on the ground. This is what my study aims to achieve for DE in different parts of the world.



ASTIDE Model (Adapting the 4th Triad of ST)

Adapting the concept of student success into the 4th triad (structure-modality-interaction): The interaction in Giddens' ST is not limited to being two-directional as is the case of TDT/IDT. Subotzky and Prinsloo (2011) define the mutual space of interaction between student and institution as the '**the student walk**' that begins with pre-registration and proceeds through admission, teaching/learning, assessment, support, graduation and subsequent participation in the community and labour market.

If sufficient mutual knowledge of students and institution is translated into effective action at each point in the students' walk, a close alignment of their activities towards success is more likely to be achieved, thereby increasing student retention rates in DE (Subotzky & Prinsloo, 2011).

ASTIDE Model (Adapting the 4th Triad of ST)

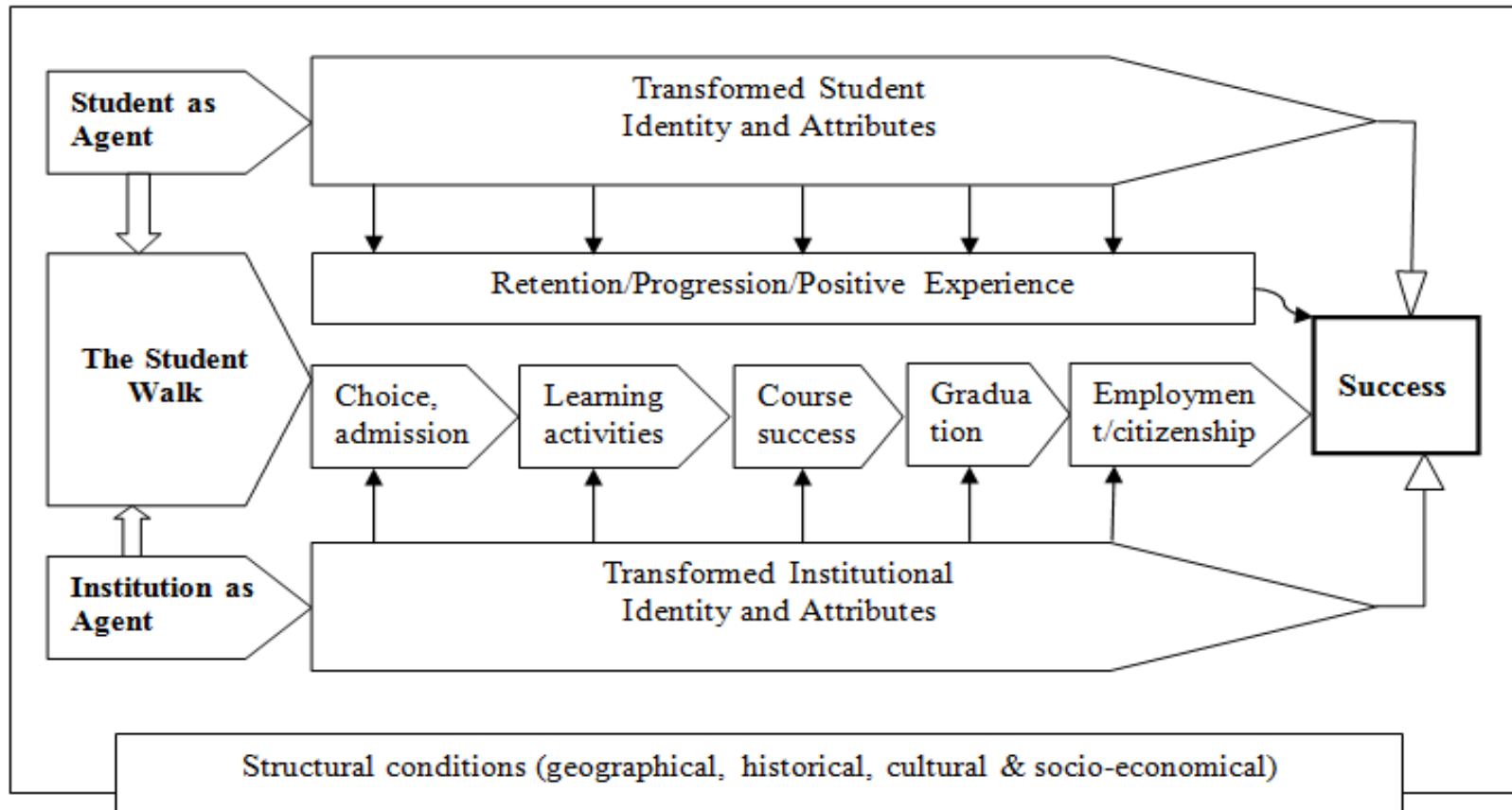


Figure 2. Increased student success through student-institution interaction in the ASTIDE model (adapted from Subotzky and Prinsloo, 2011, p. 184).

ASTIDE Model (Adapting the 5th Triad of ST)

Adapting the concept of technology into the 5th triad (three modalities): Giddens (1984) defines two types of resources in ST - authoritative and allocative resources. ICT can be seen as both since it organises the actions of human agents and is also an artefact (Anderson, 2010).

When humans interact regularly with a technology, they engage with (some or all of) the material and symbol properties of the technology. Through such repeated interaction, certain of the technology's properties become implicated in an ongoing process of structuration. The resulting recurrent social practice produces and reproduces a particular structure of technology use. Thus, structures of technology use are constituted recursively and shape the set of rules and resources that serve to shape their interaction (Orlikowski, 2000).



ASTIDE Model (Adapting the 5th Triad of ST)

For instance, teaching support tools. As the university has available data from learning analytics on how they expect a particular student with a particular demographic portfolio to perform. This data could help inform possible interventions that academics could make if student performance takes an unexpected turn. Feedback from academics is also recorded to compare their performance against expected norms.

How does it actually work:

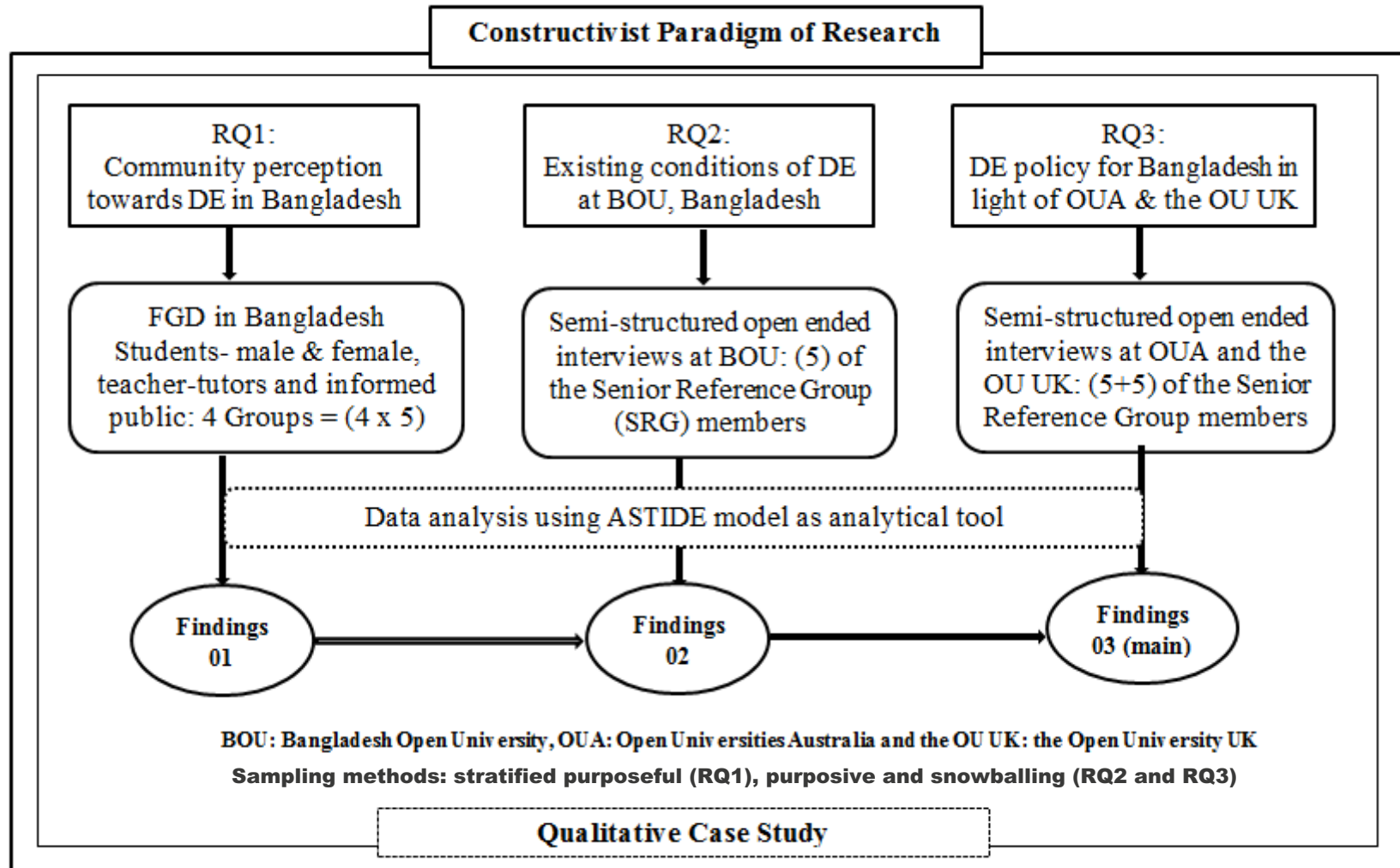
Technology based systems (e.g. teaching support tools) encapsulate norms (built-in characteristics), coordinate and control facilities (human, VLE) and embody interpretive schemes (learning outcomes). Such systems are implicated in the key constructs to link action and structure, thus changing/reinforcing social (learning) structures.



Part 2

**Impact of ASTIDE
Framework
on
Distance Education**

Conceptual Framework of the Study



Empirical Contribution-1: Collation of Policies and Practices

According to Giddens (1984),

“Adaptation to nature will shape a culture’s technology and derivatively its social and ideological components. Yet adaptation to other cultures may shape society and ideology, which in turn act upon technology and determine its future course. The total result of the adaptive process is the production of an organized cultural whole, an integrated technology, society, and ideology” (p. 235).

Participating Universities:

- Bangladesh Open University (BOU)
- Open Universities Australia (OUA)
- The Open University UK (OU UK)

Findings related to the Collation of Policies & Practices

Careful examination of interview data of the three cases indicated that BOU requires collation of a number of constructs in its structure. Those were:

Constructs of the proposed structure	Agents of collation
Quality assurance and accreditation system	The OU UK
Support system for teacher-tutors, academics and particularly for students from admission up to their employment	The OU UK and OUA
Distributed features incorporating large number of public and private universities in its operation	OUA
Three different methods of content delivery considering the ICT infrastructure of BOU and Bangladesh as well as the diverge group of students in developing countries	BOU through local innovation (absent)
Integrated technical (VET) and general education from Grade 6-12 in view of country's large informal economy & high percentage of dropouts at this period of education	BOU through local innovation (available)

Findings related to the Collation of Policies & Practices

Constructs of the proposed structure	Agents of collation
Cross-credit accreditation among provider institutions at the same programme level	OUA
Study at home model for underprivileged community such as large number of female garment workers	BOU through local innovation (available)
Flexible options of study in terms of mode (online/offline), institutions (university/degree college/BOU itself), type of education (general/technical/integrated)	BOU through local innovation (absent)
International programmes (basic/advanced) based on the need of huge number of expatriate Bangladeshi workers and also international students from neighbouring countries	The OU UK
By distributing student share to affiliated institutions, BOU requires more dedication to quality assurance, monitoring & evaluation, research & development and building human resource base.	The OU UK and OUA

Findings related to the Collation of Policies & Practices

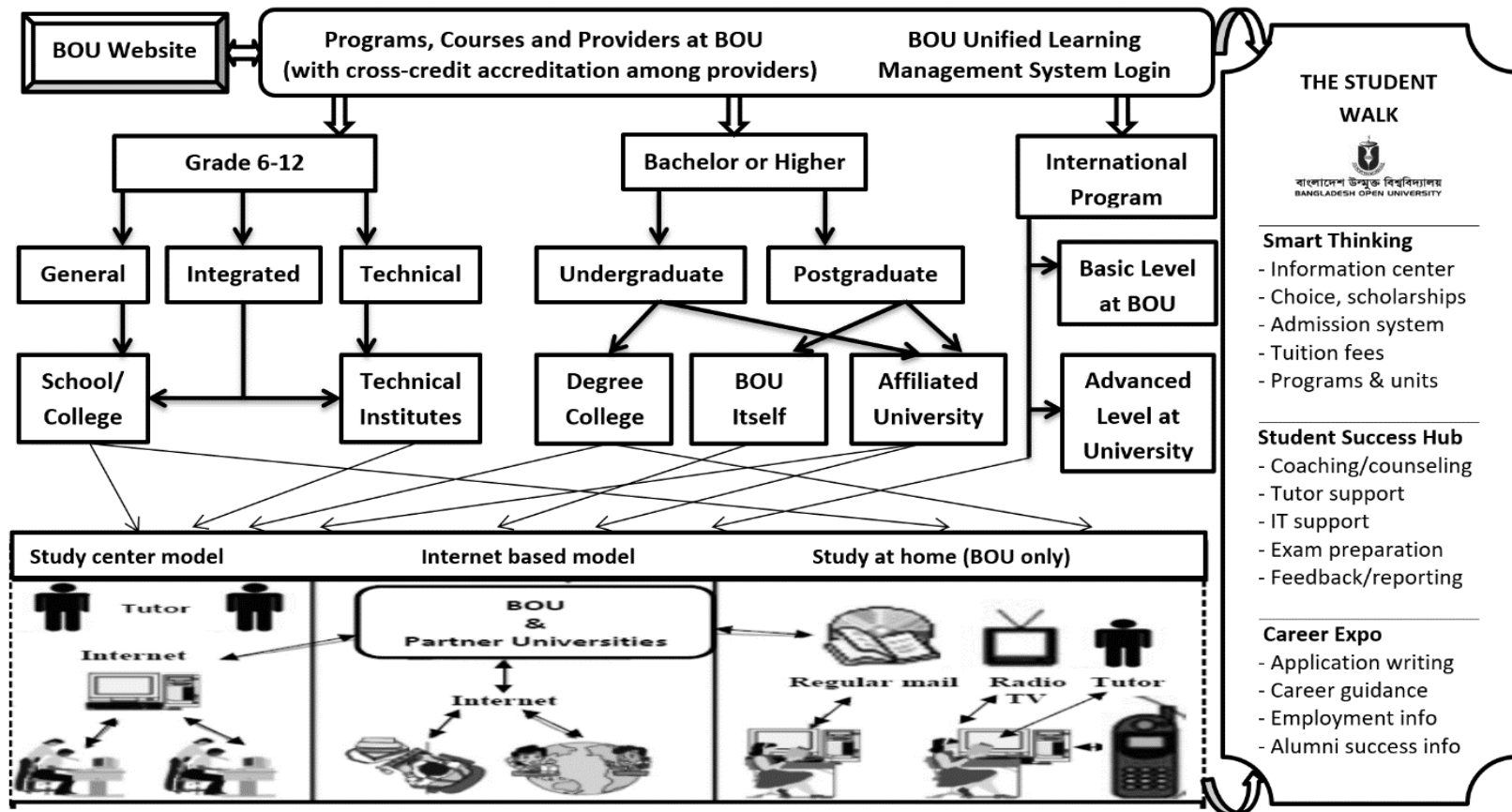


Figure 3. Proposed distributed academic operational structure at BOU

Empirical Contribution-2: Inclusion of Community Perceptions

Perceptions of the community towards distance education in Bangladesh	Frequency of mention (n=20)	Related concepts
Need for integration of VET into DE programmes	10	Development
DE enhances flexibility (traditional DE flexibility)	18	Development
Need for greater technology use in DE programmes	12	Technology
Need for pedagogical reform towards interactive learning	16	Interaction
Role of tutors and their training needs	13	Development
Equal opportunities and job prospect for DE graduates <u>Debatable issue</u> : Good: 07, Not good: 12 and Absent: 01	19	Sociological Development
Social value and recognition of DE degrees and graduates <u>Debatable issue</u> : Good: 05, Not good: 14 and Absent: 01	19	Sociological Student Success
Quality of DE programmes and provisions <u>Debatable issue</u> : Good: 08, Not good: 11 and Absent: 01	19	Policy and Practice



Empirical Contribution-3: Education For All

The best means to create a poverty-free world is to provide an opportunity for all to get meaningful education irrespective of their economic status in the society. The idea of '*Adapting Structuration Theory In Distance Education (ASTIDE)*', is the beginning of the continuum towards a viable and innovative education model that can change the world.

The theory is published in the *European Journal of Open, Distance & E-learning (EURODL)* and its application in the *American Journal of Distance Education (AJDE)*. Professor Terry Anderson of Athabasca University, Canada wrote to me, stating my article on ASTIDE as,

“a very thoughtful article which goes beyond most theoretical positions I look forward to seeing more and in using this in my own work”.

Empirical Contribution-3: Education For All

Modified Social Business Model-

- Micro-credit system is good but not enough to eradicate poverty as it is not linked with sustainable knowledge and skills, therefore, not viable always. Grameen Bank offers low-cost loans to women to set up mobile phone booths. The women charge for the use of their Pay Phones, and earn money that enabled them to change their fortune but it sustained for a very limited time. Getting loan is not a solution but rather relevant knowledge and skills on how to use that money should be the key.
- ‘Everyone can be an entrepreneur’ - it is idealistic thought, not practical. Better to focus on each administrative unit of a country and creating leaderships through entrepreneurship & education, which in turn, creates jobs and thus, provides a sustainable means of alleviating poverty.

Empirical Contribution-3: Education For All (examples)

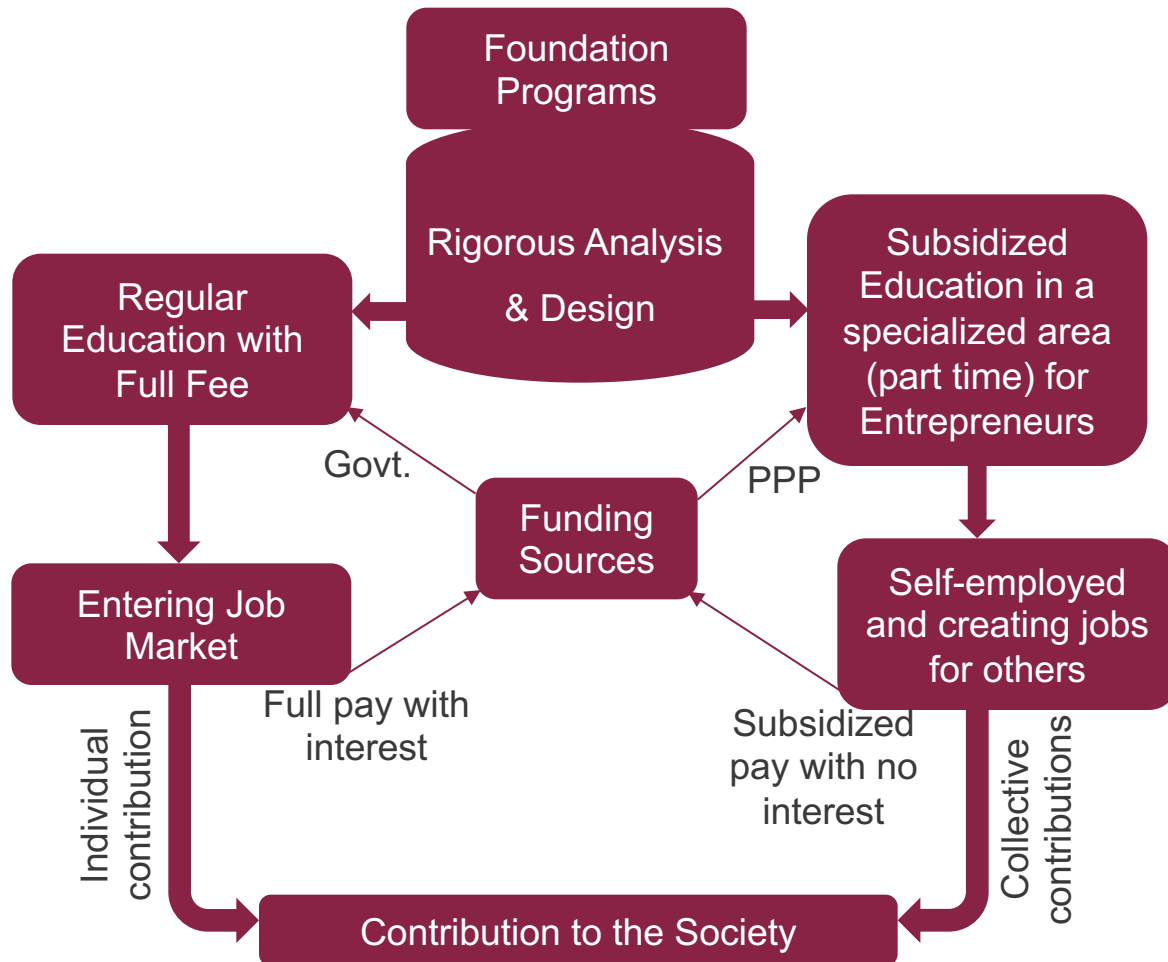
- Learning & Earning Development Project in Bangladesh: This govt. project provides IT education/training to create job opportunities for 20 million people and earn US\$5,000 million through freelancing by 2021.
- Underprivileged Children/Youth Education Program (UCEP): This NGO aims to uplift the socio-economic conditions of underprivileged communities through help to learn skills to earn. It provides education, skills training, advocacy, job placement and entrepreneurship.
- Khan Academy (USA) Initiative: Millions of people lack the skills and credentials to participate in the global economy. Khan Academy's long-term goal is to develop internationally-recognized diplomas that provide direct access to economic and educational opportunities. It also plans to create free content & tools to help people earn the diplomas.

Empirical Contribution-3: Education For All (how does it work?)

My focus is on those students who have been dropped out of formal education systems due to a wide range of socio-economic issues. On an average, this group includes 60-70% of students in developing countries and 30-40% of those in developed world. Within the ASTIDE framework I suggest a five-stage process, which comprises:

- Analysis and design
- Subsidized education (part time) in a specialized area;
- Entrepreneurship in that specialized area alongside education through social business by means of public-private partnership (PPP);
- Getting rid of unemployment and thus, poverty;
- Contributing to the society and thus, to the country in which they live.

Empirical Contribution-3: Education For All (how does it work?)



Some of the References

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Q / A

Thank You All