

Descriptive Study of College Bound Rural Youth of AP, India

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Abstract—Pedagogical literature is generally rich with references to digitally savvy students, operating at twitch speed. This creates pressure on instructors, pedagogies, educational technologies to primarily cater to these digital natives. This paper conducts a descriptive study of students of rural AP to see if indeed Indian tier 2-3 students are of this caliber and description. Should the digital natives model be used for rural Indian student profile as well? Findings from our survey based study reveal that of the (N=372) tier 2,3 students only 50% own a PC, only 41% surf the web; and of those who surf, it is mostly consumption behavior with social intent. And finally, while the confidence in learning and skills is high, English comprehension skills is poor. We feel that this profile of students is in contrast to the computer savvy image being projected, and should inform emerging educational technology projects aimed for rural India.

Keywords—digital divide; urban-rural gap; student profile; Indian rural student

I. INTRODUCTION

Today's students have been called Digital Natives [1], Net Generation [2], N-gen (for Next generation), D-gen (for Digital generation) [3], Net-Gen (Net Generation) [4], V-gen (Virtual generation) [5]. Operating at "twitch speed", this generation is said to be very computer and technology savvy. According to [1], this new generation of students want things fast, in parallel, in multiple modalities. One implication is that it creates pressure on all educationists, instructors and designers to come up with pedagogies, curricula, lesson plans, learning content etc. that are reflective of this computer savvy generation of students.

While on one hand the pedagogical literature is rich with references to hi-tech students, the evidence on the output of tier 2 and tier 3 (i.e modest educational institutions) is to the contrary. Studies assessing students in India [6]–[8], have concluded that only a fraction of the graduating students are employable. They are indicative of alarmingly low levels of technical and non-technical skills.

Our intent of this paper is to understand the typical profile of the Indian college student. By studying such a profile, one can derive insights and recommendations that may motivate either educational activities (e.g. serious games), pedagogy, or even content intended for the college bound students of Andhra Pradesh (AP). To this end we have executed a survey.

A. Research Objectives

The primary objective of this descriptive study is to understand the student profile of low rung tier 2, tier 3 college youth of rural AP, who are typically in the age group of 20-30 years of age. Key questions that are driving this survey based study are:

- 1) Are the students digital connected? That is, do they own computers, cell phones?
- 2) Do the students navigate the world wide web? If yes, for how long and for what purpose?
- 3) Noticing that the content on the web is mostly in English, how are the language skills of these students?

By studying these topics we wish to formulate some high level insights and propose some recommendations for instructors who leverage technology.

II. LITERATURE REVIEW

India is known to be a developing country with poor infrastructure. Most of the masses, from which the students emerge, are young [9] rural, illiterate [10], and poor [11]. Even the institutions are dilapidated, lack proper amenities and have unfavorable student-teacher ratios [12].

A national readership competency survey [13] reveals startling facts. Apparently, for information, the rural literate depend on television the most (at 70%) and next on newspaper (46%). Content wise, the rural students are not looking at Science & Technology (35%) as much as they are exploring Music / Films (78%), Current Affairs (72%), and Religious & Spiritual (59%) content. It suggests that most of the of the Indian rural youth (46%) are exposed to the world wide web at places like an internet cafe only. Apparently only 24% get to connect at work, and approximately 13% seem to have access to the web at school. And, when it comes to favorite recreational activities, only a lowly 1% are interested in connecting online to browse, compared to the 28% who are interested in watching television.

Another survey dealing with media education in India [14] notes that media education in India – and we think that this applies to web accessibility as well – has suffered because of lack of proper resources and teacher training, and due to a gap between an exam-oriented educational system and

Table I
TIME LINE OF SURVEY WITH RESPECT TO ACADEMIC YEAR

| | Survey 1 | Survey 2 | Survey 3 |
|---------------|-----------------|-------------|----------------|
| Dates offered | Jul, 2012 | Nov, 2011 | Apr, 2013 |
| Academic year | Begin year | Middle year | End year |
| Location | Hyderabad | Vijayawada | Khammam |
| Questionnaire | Language skills | Influences | Web usage data |
| Respondents | 184 | 62 | 126 |

aspirational government philosophies. Overall the picture is clear: rural Indian college bound students are working in and with poor infrastructure. They lack amenities and (perhaps consequently) skills. Our study attempts to validate this impression empirically for state of AP.

III. SURVEY METHODOLOGY

To ensure broad coverage in geography and academic institutions the survey was conducted in three different locations as three distinct but similar surveys. See Table I. Not conducting the survey at the same time also gave the researchers an opportunity to change the questionnaire in-between and allowed them to deep-dive on few of the aspects that were uncovered by prior survey's results.

A. Data Collection

The three surveys have been paper-based and consisted of approximately 10-12 questions related to personal information, computer ownership, and computer usage etc. Along with these common questions, in Survey 1, additional questions focused on the language proficiency and confidence, and in Survey 3, questions related to cell phone ownership, talk time, and web usage were added. Survey 1 had 3 language based variations which were specially designed to expose language comprehension errors.

IV. FINDINGS

A. Executive Summary

The aggregate number of respondents for all the three surveys is N=372. The three surveys collected data from respondents which comes from 21 of the 23 districts of AP. The respondents are mostly male with only 23% of Survey 3 being female. In reality, there were female youth respondents in Survey 2 as well, but they were not tracked. The researchers estimate the overall female respondents to be about 10% of the overall count. Of the N=372 respondents, approximately 88% are students, 2% are employed, and 9% are job seeking youth. The average age of participants is approximately 22.

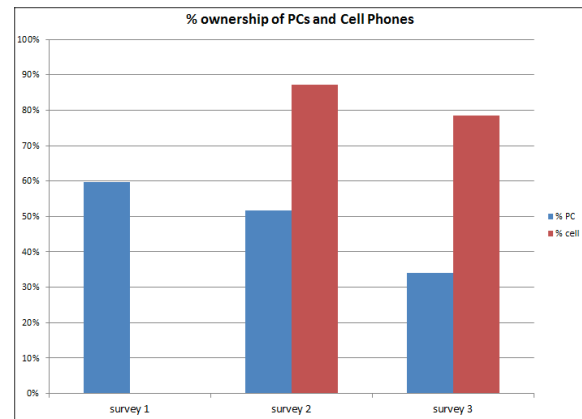


Figure 1. Contrast of PC Vs cell phone penetration in AP student population.

Table II
WEB ACCESS THROUGH INTERNET CAFES

| | overall | Survey 1 | Survey 2 | Survey 3 |
|---------------------|---------|----------|----------|----------|
| Respondents (N) | 341 | 182 | 62 | 97 |
| Yes, use cafe | 41% | 36% | 45% | 47% |
| No, do not use cafe | 59% | 64% | 55% | 53% |

B. Digital Connectivity

With respect to digital connectivity, 84% of the 182 respondents of Surveys 2 and 3 owned a cell phone, and 50% of the overall respondents own a personal computer (PC). See Figure 1. Note that Survey 1 respondents were not tracked for cell phone ownership and usage.

C. Web Usage

Of the other 50% that do not own a PC, only 17% indicate navigating the world wide web at an internet cafe. When asked how they spend their time on the net, the respondents chose more options which were consumption oriented – like finding supporting online education material, or finding a job – than the options that showed their contribution to the web – like uploading, emailing etc. See Figure 2, 3. When asked about how useful the computer and web are for people, in Survey 3, 65 respondents gave an average rating of 7 for a choice values of -10 (for very useless) to +10 (for very useful). The typical utility of a computer system for students is with school work and for job functions.

D. Language Skills

Web is significantly loaded with English language publications. And in contrast, the students of AP are immersed in a ecosystem which is multilingual [15]. In our survey we wanted to explore the language competency and skill

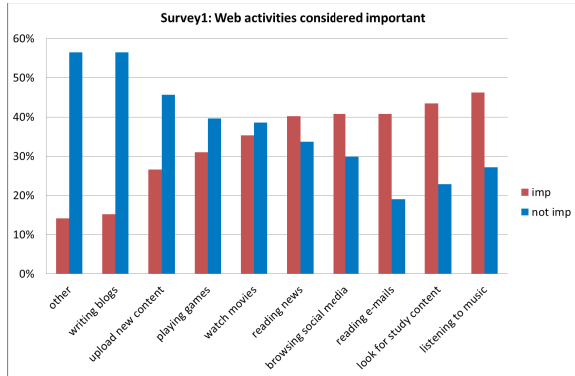


Figure 2. % of Survey 1 respondents voting on which activities are (not) important

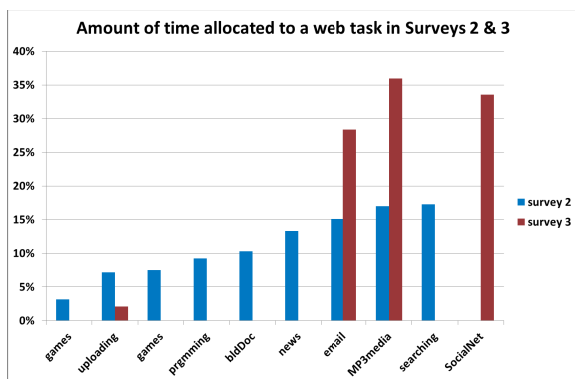


Figure 3. % of Survey 2 & 3 respondents voting on which activities are (not) important

of the tier 2, tier 3 students. We wanted to know how their English language competency compared itself to their native language. We felt that this too was a key input to the design of Educational Technologies.

Survey 1 explored this issue in good detail. To test the English competency levels of these students, a survey question had participants self report their confidence in

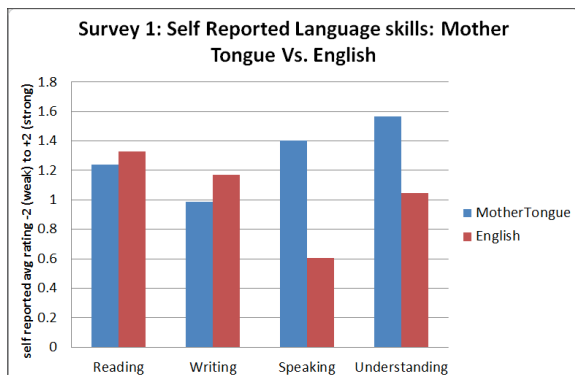


Figure 4. Comparison of English skills with that of mother tongue

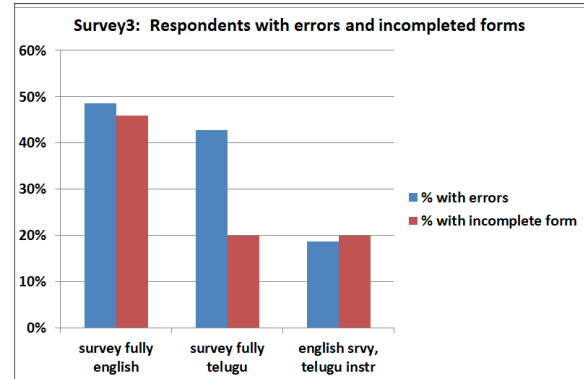


Figure 5. Errors found survey form completion

language skills (see Figure 4), and this was compared to the error count observed in completing the survey form. To surface the language related errors in filling out the survey, 3 versions of Survey 3 were introduced. Each version featured a specific language combination. Interestingly about 49% of the students had difficulty in completing the form and equally high number – about 46% – had errors in the forms they had submitted. The least amount of errors and accurate completions came when the instructors were in local vernacular. See Figure 5.

E. Demographic particulars

Per survey results, the respondents typically come from very non-corporate environments like farming or small business or labor backgrounds. College-going students themselves did not work, not even part-time. From a family point of view, data showed 74% of mothers were housewives and 8% were laborers. For father's profile, a majority (29%) were farmers; laborers were 21%; small business owners and professionals constituted 19% equally. Of the 62 responses, 85% lived in their own home, 34% reported the family owning a two-wheeler. Respondents, 18% of them, claimed outstanding loans. Average monthly expenses was around Rs 1288 (which is, in April 2013 forex values, equivalent to 24 USD or 18 Euros). This is can be considered as pocket expenses, but inclusive of things like bus fares, internet cafe fees etc.

Given the above environmental conditions, when asked about confidence in language skill and learning, participants rated themselves as being 'good' or 'very good'. On average there were about 181 respondents. About 65%-78% of these respondents voted themselves being 'good' or 'very good'. Only about 4%-11% considered themselves either 'poor' or 'very poor'. Of the choices given, the respondents showed their levels of interest in learning to be 40% 'good' and 38% 'very good'. Even when it came to self perception of job readiness, 36% thought that they were 'very good' and 35% thought that they were 'good' and 22% thought that they were average.

V. SUMMARY

Data reveals that the college bound population is largely male dominated, age bound and non-working. Students apparently are attending to school first and then going on to employment. Even part-time employed workforce is non-existent. Digital connectivity is largely cellphone oriented (80%). Only half (50%) are having access to personal computers and only 39% are accessing the net. And, while on the net, web browsing time is spent on downloading music, movies and browsing social content. Little time is spent on interactive activities like games, e-mail, and, even less time is spent on uploading content for others to peruse.

Along with web usage, language skills were also explored. Survey reveals potential challenges in the comprehension of the existing English-heavy web content [16]. Despite language barriers, and the much publicized skill gap [6], the students themselves seem confident and comfortable with their own skill sets. Moreover, they feel they are very much job-ready and capable.

VI. CONCLUSION & RECOMMENDATIONS

Given results of the survey, it appears that the AP students are not quite computer savvy and operating at twitch speed. Having this awareness can impact the design and development of course content, lesson plans, curricula, educational technology etc. The key points for the instructors and content designers and developers to remember are:

- 1) Get people to use the computer and the web more by providing more free computer labs with free web access.
- 2) Teach students how to utilize the computer (socially). That is, give more assignments that are computer activity intensive: introduce them to open office, version control, Emacs... have them submit content online respond to questions on chat boards and forums; have them maintain a blog...
- 3) Localize the content: that is, a teacher can retain the original raw / source content in English, but re-narrate the instructions in local vernacular.
- 4) When designing educational content, ensure that it is culturally relevant in nature. That it addresses the topics of job-settlement, family well-being and community concern.
- 5) And do develop games and activities that are collaborative and not individualistic.

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