Importance of School based ICT Curriculum & Career Counseling in Pakistan

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Abstract

In present times it is a universally accepted fact that ICT (Information Communication Technology) is the sole potent driving force behind every knowledge driven economy of the world. In order to effectively implement ICT in various fields, there is a dire need for the availability of proper well trained / committed ICT work force in a country. In Pakistan lack of interest of students in the field of IT coupled with the decline in the quality of output has compelled us to embark upon deliberating on this vital issue which confronts us. This paper delves in to different factors like curriculum, availability of resources, proper guidance and career counseling – the core issues affecting the role of ICT at school level in Pakistan. Data is collected from the existing students of Bachelor (BBA ITM, BBA Hons, BCS) and Master level (MBA ITM,MBATEM ,MBA,MCS) programs of five different universities of Pakistan(two public sector and three well reputed private sector). It is observed that majority of the students hailed from remote areas of Pakistan having Urdu-medium instruction background. With inadequate exposure of ICT at school or college level and maximum of their time was exhausted in developing basic level skill instead of preparing them for hi-tech industry. Moreover, it is observed that majority of the students are not aware of their objectives of the specific programs they are enrolled in and also about their future careers in these fields, simply due to nonexistence of career counseling culture both at school and college level

Introduction

The overall purpose of this study is to determine the reasons of lack of interest of students-cum lack of professionalism in the field of ICT. The results of ICT competencies for expected outcomes, related to knowledge and skills that students were expected to achieve at the end of university level programs are not comparable with the neighboring countries like India, Bangladesh and China. "The future expansion and use of ICT in Pakistan, as elsewhere, must inevitably, however, depend on the school and higher education sectors producing an adequate flow of appropriately trained people. Only then can the country be confident of making the best use of the ICT opportunities now available within Pakistan". (**Iftikhar Ali and John Proctor- 2004**). Despite the herculean efforts of HEC on providing state of the art paraphernalia, the resources are not optimally utilized by the students, reason being from diverse backgrounds and having less exposure of IT before joining universities.

Unfortunately, the universities are working as institutes for providing training of basic, software and hardware, applications instead of enhancing knowledge in these advance fields. It has been observed that few students were working on industry related projects. Most of the students are concentrating on shortcuts instead of threadbare projects. Consequentially they face difficulty in getting proper jobs in the industry. This creates frustration among them and leads to negative feedback to the existing students. In recent years the student interest in the field of IT and computer science has dropped significantly. The programs like MBA ITM, MCS and BCS and BBA ITM are getting very ordinary response. One of the areas of concern with the universities is the "lack of desired aptitude in the students of these programs". The industry is still aspiring for the professionals in these fields, but unfortunately, instead of producing required professionals for the industry, some universities have stopped offering these programs.

There are multiple causes for this but one of the most crucial factor is inadequately designed ICT policy at school level coupled with the complete nonexistence of career counseling which is much needed influential factor at this stage.

Literature Review:

ICT policies of different countries were searched, analyzed and lot of literature is available on this topic. "In order to prepare students for the challenges they will face in future life, teachers and students should be able to use ICT in their teaching and learning activities, which may facilitate the development of new skills and high order thinking" (**Spencer, 1999**). In order to plan, design and implement ICT in the country there is a dire need of strong and committed professionals in this field. Literature review on successful ICT implementation in the countries like Japan, Malaysia, Spain and Israel has shown great emphasis on ICT implementation at primary school level. The incorporation of ICT into the school has shown great impact on the students of these countries. They have incorporated ICT into curriculum at different levels in the schools. The teachers were trained in this area so that they can integrate technology in the class. The numerous successful examples of innovative ICT uses for teaching and learning are found all over the world (**Mioduser et al., 1999; Voogt & Odenthal, 1999; Venezky & Davis, 2002**). The different studies on ICT implementation at school level has shown that the thinking process of students has been improved considerably with the help of different tools used in the class room. Innovative aptitude of students at school level has great importance in the advance fields of their research.

The impact of ICT, on innovation has been positive shown by the experiment on ten schools in Israel (**D. Mioduser, R. Nachmias, D. Tubin & A. Forkosh-Baruch, 2002**).The Virginia Board of Education has implemented state Standards of Learning for students to ensure that all graduates of Virginia high schools have the knowledge and skills necessary to pursue higher education, compete in a technologically oriented workforce, and be informed citizens. Effective school counseling programs are staffed by licensed school counselors and designed to complement and support the state standards, ensuring that all students, in pre-K through grade 12, receive support in academic, career, and personal/social development. Professional school counselors collaborate with parents, teachers, administrators, and other school and community members to foster, promote, and improve student success and achievement in schools. The counselor's role is to provide the leadership necessary to manage the school counseling program and ensure effective strategies to implement counseling standards. (**Standards for School Counseling Programs in Virginia Public Schools Adopted in January 2004)** Mr. Kumar(2007) has pointed out the difference of career counseling services of US with India.

He has mentioned in his paper that almost all the schools of US are providing career-counseling services to their students. They are using different software for personality test and help their students in judging their strengths in particular fields. Whereas very few schools in India offering such type of services. Super (1990) suggests that career planning becomes significant during late Adolescence and early adulthood. During this time, senior high school students enter a time in their lives when seeking career information and becoming aware of their vocational interests is a major developmental task (Erickson 1966, cited in Kracke 1997) Information used by young people in deciding their future plans and career is based on the information they acquire during childhood, through their parents, friends and teachers, guidance counselors, public lib rary resources, the mass media and government career centers (Julien 1999,Kim Witko, Kerry B Bernes, Kris Magnusson and Angela D Bardick,2005) With the help of internet students are encouraged to explore their strengths and teachers help them in this regard.

This can be possible only, once they have access to internet and get to know what is happening in the world. Their results are displayed on the electronic notice boards and in some cases through educational intranet. There are some English medium schools in Pakistan, which have incorporated ICT in their curriculum and for effective management.One of the most important successful case study in this regard is City School experience of ICT in Pakistan (**Iftikhar Ali and John Proctor, 2004**). They have highlighted different advantages of implementation of ICT at different levels. This school has now sustainable competitive advantage over other schools. The students of this school are fully utilizing ICT resources, which has a very positive impact on their personalities. These students will know in advance the use of different software and resultantly develop their expertise in their respective fields of interest in the universities. Moreover, they will prove to be a valuable asset for the student community in particular and for the country in general.

Research Methodology

Purpose / Aim of the Research Study:

It is very difficult to gauge the reasons of lack of interest of students in their respective fields. Initially the International Islamic University, Islamabad Pakistan and four other universities (Muhammad Ali Jinnah University, COMSATS, FAST and Arid Agriculture University) are selected for the purpose of research.

Following are the main objectives of this research study:

- To identify the background of different students before joining the respective universities (English medium or Urdu medium).
- To explore the expertise of ICT before joining university, use of computer, internet etc.
- To explore the concept of career planning vis-à-vis the future plans, objectives and reasons for joining specific programs.

Research Design

Sample Size:

In order to expedite the research process students from Faculty of Management Sciences and of Faculty of Applied sciences were selected on the basis of stratified proportionate sampling from five different universities. A sample of 500 students was studied for this purpose.

Survey Methods: (Mail, Interviews, Telephones)

Our focus is on FMS and FAS students. For the survey, simple questionnaires were developed and groups were formed to collect the specific information in this regard.

Response Rate:

The students of different universities were approached and briefed about the importance of this questionnaire. They were briefed about the objectives of this study and requested to provide the information in a befitting manner.

Univeristy		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	IIUI	200	47.8	47.8	47.8
	MAJU	70	16.7	16.7	64.6
	FAST	50	12.0	12.0	76.6
	ARID	40	9.6	9.6	86.1
	COMSATS	58	13.9	13.9	100.0
	Total	418	100.0	100.0	

Table1

Some useful information is gathered from the admission department of universities. They provided the details of the students enrolled in the IT and computer science programs. After data collection, we coded it in Microsoft Excel and used SPSS for analysis.

Table2 shows that 68.2 % were male and 31.8% were female students from five different universities of Islamabad.

Students		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	285	68.2	68.2	68.2
	female	133	31.8	31.8	100.0
	Total	418	100.0	100.0	

Data Analysis

1. Medium of Instruction

Fig.A shows the students joining the university level program are mainly from three different instruction based backgrounds like Urdu medium, English medium and A-level.
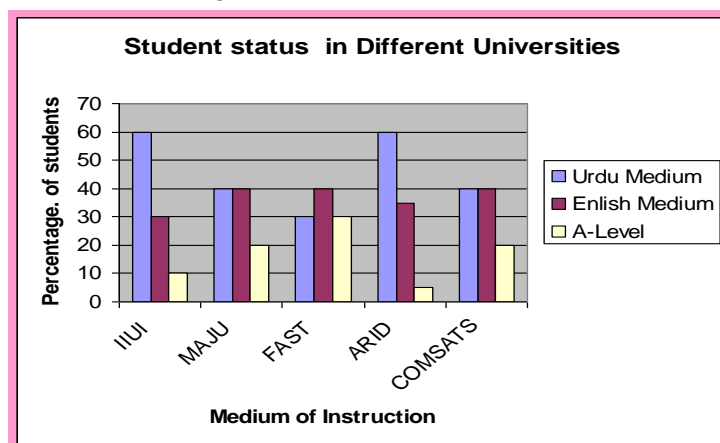

Fig-A

The following graphs show the Percentage of Students based on medium of instruction joining IIU, FAST, ARID, MAJU and COMSATS at Master level and bachelor level.

Medium of instruction of majority of the students joining public sector universities is Urdu and that of Private sector universities is English. There can be multiple contributory factors for this contrast but the most salient is the affluence of the parents of the students who join private sector universities.

2. Email Account

In order to get the information about the use of ICT services at basic level, students were asked to provide information about Email account creation and use.Fig.4 shows that 13.9% students created email account at school level, 13.6 % at college level and 71.1% created email account at university level. Surprisingly there were 1.4 % students without email address even at university level. This chart speaks volumes in favor of our premise "School based ICT Curriculum in Pakistan".
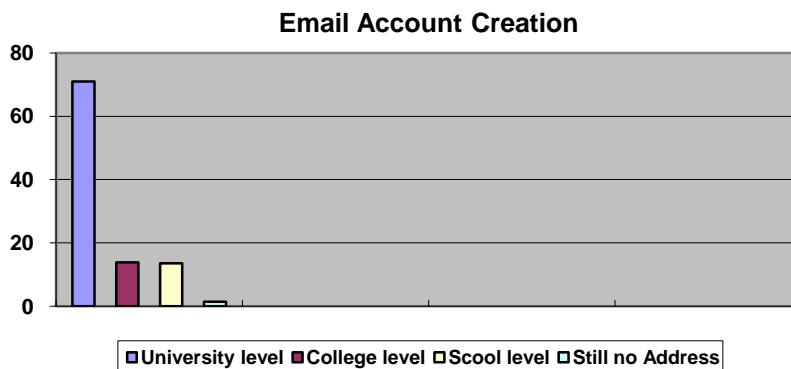
Email Account Creation

Fig.B

3. Availability of Internet services at school level

Only 28 % students have given positive response in availability of internet services at school level whereas 72% shows negative response in this regard. The arguments envisaged as in fig B ante hold well in this case also.
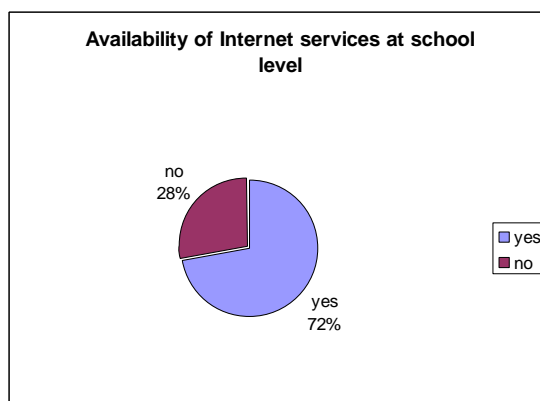
Fig-C

4. Career Counseling at School Level

Only 34% students mostly belonging to private English medium schools has shown positive response and 66 % response was negative. Mostly the Urdu medium schools do not have any concept of career counseling. The students are not aware of their strengths and aptitude and unfortunately their hidden talent is not exploited that level.
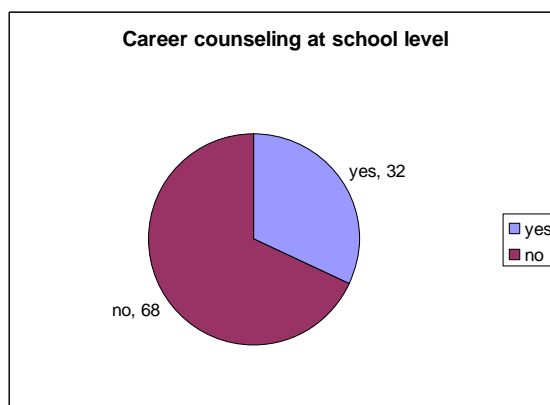
Fig D

5. Objective of Program

Results depict that majority of the students did not know the objectives of the program they are enrolled in and its significance with the contemporary trends in the industry. This, results in not fetching the right jobs.
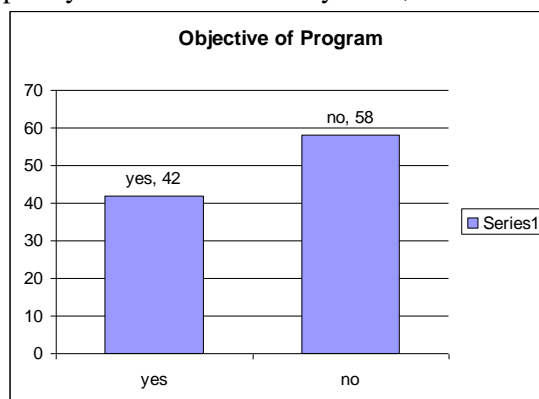
Objective of Program

Fig. E

6 Decision about Career

Majority of the students decide about their career at university level. It means that they decide about the specific programs of their study at university level. They do not have any idea about the specific program at school or college level. Results show that 68% students decide about specific career at University level,16.7 at college level and only 14.8 decide at school level. Career guidance at the school and college level will enhance the university intake.

Decision about their career		Percent	Valid Percent	Cumulative Percent
Valid	school level	14.8	14.8	14.8
	college level	16.7	16.7	31.6
	university level	68.4	68.4	100.0

Table 3

7. Knowledge of internet before joining university

Approximately 40% students were using the internet before joining the universities, thanks to the mushroom growth of internet clubs which are less used for academic purpose/educational purposes and more for entertainment purpose.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	yes	162	38.8	38.8	38.8
	no	256	61.2	61.2	100.0
	Total	418	100.0	100.0	

Table 4

8. ICT Expertise

The students joining the university level programs in the field of ICT are mostly at the learner level and only 6% students have the desired expertise. These students spent most of their time in developing and learning basic skills. It is very difficult for them to do research at the advance level.

|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Learning Basic Skills	204	48.8	48.8	48.8
	Little Knowledge	150	35.9	35.9	84.7
	intermediate	36	8.6	8.6	93.3
	expert	28	6.7	6.7	100.0
	Total	418	100.0	100.0	

Table5

9. Rationale for internet surfing

Students are using internet mostly for chatting and email instead of using it for research purpose. HEC has provided access to different research journals and libraries and for this purpose they have invested million of dollars but Unfortunately students are not getting use of these resources. We should try to shift the focus of the students using internet to research purposes.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Digital Library/Research	20	4.8	4.8	4.8
	chatting	108	25.8	25.9	30.7
	email	147	35.2	35.3	65.9
	general surfing	75	17.9	18.0	83.9
	online courses	67	16.0	16.1	100.0
	Total	417	99.8	100.0	
Missing	System	1	.2		
Total		418	100.0		

Table 6

ICT at School level (A conceptual framework)
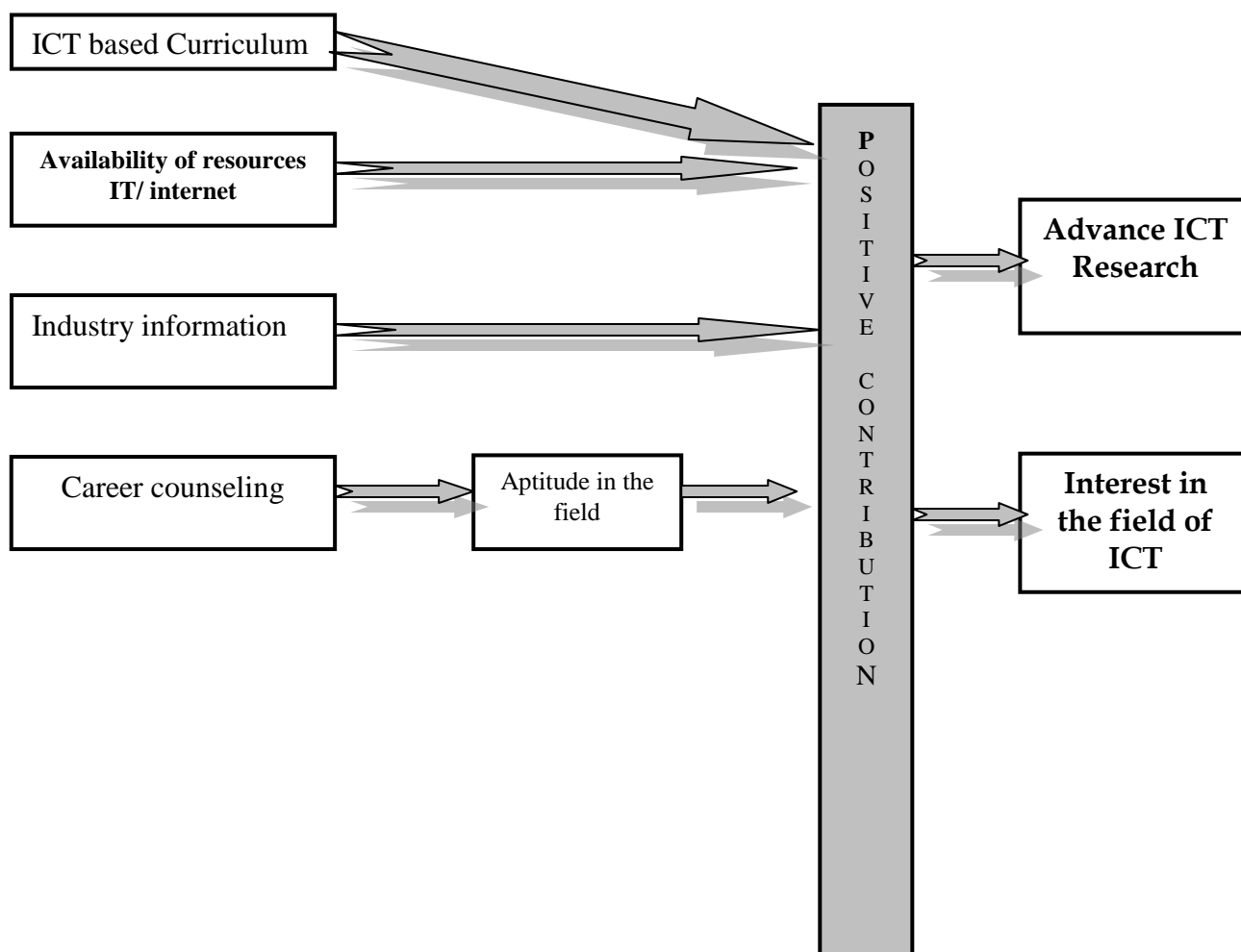
Conclusion:

This research paper concludes the need of a School based ICT Curriculum taught at both the government and private schools throughout Pakistan, supported by the availability of career counseling of student at primary, elementary and at higher levels in order to meet the demands and challenges of the modern high tech industries across the globe. It has been observed that there is a lack of ICT infrastructure availability at school level. It is recommended that attention must be given to the availability of ICT infrastructure at school level. The availability of internet services at the school level will help the students to search different upcoming specialized emerging areas and fields so that they can decide about their future with interest and commitment. Curriculum at school level should be designed in a way, which makes the teachers integrate ICT in the classroom. Teaching of basic software like MSWord, Excel, Power Point and internet and Email must be provided at school level. On the basis of results of this study it is further recommended that that efforts must be made regarding the development of web site and database at college level in order to visualize the use of ICT at this level.

The lack of advance ICT skills at the university level could only be improved once the student has basic knowledge at the college level. The students at the university will start thinking about advance concepts of operating system, databases and web development and start doing advance research in these areas.

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