

## The Zimbabwe Bulletin of Teacher Education

An official journal of the Department of Teacher Education, University of Zimbabwe

**Editor: Dr B. Chenjerai Chisaka**  
 Department of Teacher Education  
 University of Zimbabwe  
 P O Box MP167  
 Mount Pleasant  
 Harare  
 Email: bcchisaka@yahoo.co.uk

### Editorial Board:

Dr I. Jeso

Mr. P. Kangai

Mr. O. Mavundutse

Mr. S. Matiure

### DTE Advisory Board

Dr O. Shumba

Prof. B.R.S Chivore

Mr Q. Bhila

Mr. C. Munetsi

Mrs C. Muvirimi

Mrs B. Vidovic

### Editorial Board Secretary:

Ms R.T Mareya

The Zimbabwe-Bulletin of Teacher Education [ISSN: 1022-3800] is a journal that is published two times, one volume of two issues per year by the Department of Teacher Education, University of Zimbabwe.

### Subscription Rates

The subscription rates per year and per volume (2issues) of the journal are as follows. These rates are subject to change without prior notice.

	Within Zimbabwe	Outside Zimbabwe
Individual	Z\$7 000.00	US\$ 80.00
Institutions	Z\$8 000.00	US\$150.00

Single copies may be ordered for Z\$3000.00 within Zimbabwe and for US\$50.00 outside Zimbabwe.

**The Zimbabwe Bulletin of Teacher Education**

**ISSN: 1022 – 3800: Volume13, Issue1, July 2004**

<b>CONTENTS</b>	<b>PAGES</b>
❖ Editorial	i - v
❖ Book Evaluation: Improving Teacher Preparation R. Chireshe	1 - 3
❖ Stress Antecedents Among Student Teachers. O. Mavunditse	4 - 20
❖ Students' Perceptions of Factors and Gender Differences that Influence their achievement in "O" Level Mathematics in Mashonaland Central Region. L. Nyaumwe, R. Bappoo, G. Buzuzi, and O. Kasiyandima	21 - 39
❖ The Role of Theory in the Sociological Study of Education. R. Nyoni	40 - 51
❖ Examination Malpractices in Schools: Views from Secondary School Students in the Harare Region: Zimbabwe. A.T Sigauke	52 - 72

Oliver Mavundutse

**Stress Antecedents Among Student Teachers**

**Abstract**

The purpose of this study was to find out the sources of stress among teachers' college students. The study targeted third year students at Mkoba Teachers' College (M.T.C.). Fifty two (52) female and forty eight (48) male students participated in the study. The 52 female students included 39 resident and 13 non-resident students while 39 males were resident and 9 were non-resident. The third year students were in their final residential session after Teaching Practice (T.P.). The four main sources of stress were found to be Theory of Education (T.O.E.) examinations, work load, being a non-resident student and Theory of Education (T.O.E.) assignments.

**Background**

Nyangengo (1990) carried out a study on stress among teachers in urban Government Secondary Schools in the Manicaland Province. Chakaza (1994) also carried out research on antecedents of occupational stress among teacher's college lecturers in Manicaland. Both studies generally concluded that there were high levels of stress among secondary school teachers and teachers college lecturers respectively. The question that came into this researcher's mind was at what stage stress among those two groups of professionals could have started.

As a college lecturer, a hostel warden and a counsellor, the researcher observed and experienced that college students often failed to cope with their college work. For instance, particularly at first year level, a good number of students asked for extension of due dates for assignments and/or also absented themselves from lectures finishing off outstanding assignments. At third year level, absence from lectures among students was even worse. Some students were eventually sent for counselling. It was during some of the counselling sessions that the researcher established that most students appeared to be over worked or burnt-out by college academic work. Even the college nurse as a member of the counselling committee acknowledged dealing with stress related problems among students, these included loss of appetite for food, head aches and general physical fatigue.

Save for the two research studies cited above, to the best knowledge of this researcher, there appears to be insufficient research that has been done on stress factors that relate to student teachers in Teachers' Colleges in Zimbabwe.

This study was carried out to develop more insights into the causes of stress among student teachers in Zimbabwe. It was the hope of the researcher that such a study would go a long way in creating additional knowledge and awareness of stress factors in Zimbabwe's Teachers' Colleges. The motive was to address these stress factors with a view to finding solutions to them.

### **Statement of the Problem**

What are some of the sources of stress among student teachers in Zimbabwe and what appropriate strategies can be employed to minimize them?

### **Definition of Stress**

Myers (1989:508) views stress as, "The whole process by which we appraise and respond to events called stressors." Rathus (1987) suggested that stress was the demand made upon an organism to adopt, to cope or to adjust. Most scientists however suggest that stress is the organism's response to events that challenge it. In defining stress, Lazarus and Launier (1978) and Dehongis, Folkman and Gruen (1985:770) say, "In contrast, our view is that stress lies not in the environment input but in the person's appraisal of the relationship between that input and its demands and the person's agendas (e.g. beliefs, commitments, goals)".

Kobasa (1979:2) sees an event or situation as stressful, if it causes changes in, and demands readjustment of an average person's normal routine. Kobasa argues that this definition of stress relies upon the empirical demonstration by Masuda and Holmes (1967). Masuda and Holmes (1978) argue that there is a general consensus about the degree to which specific life occurrences involve change and require adjustments.

The above view of stress seems to be in line with Taylor's (1983) cognitive view which sees stress as an interaction between a situation that requires readjustments and a person's ability to cope. What is crucial perhaps is a person's definition of a situation that is stressful; hence, the philosopher Epictetus in Scarr and Vander Zanden (1987:456) observes that, "We are not disturbed by things but by our opinion about things." Lazarus et al (1985) further popularise this cognitive view of stress by pointing out that stress resides neither in the individual nor in the situation alone, but in how a person evaluates an event.

### Assumed Causes of Stress

Generally, causes of stress can be divided into three broad categories i.e. catastrophies, important life events and daily hassles (Rathus 1981). Catastrophies like earthquakes, hurricanes, floods and nuclear accidents are unlikely to affect people on a daily basis.

Important life events include difficult, sorrowful and happy occasions in one's life. Chiribong et al (1990) in Matlin (1995) observe that a woman nursing her husband recovering from a heart problem, stroke or suffering from cancer is likely to develop a stress-related disease herself. Thus Lazarus et al (1985:778) say, "Even major events such as the death of a loved one, divorce, loss of a job, illness, incapacitation, and so on, elicit wide individual variations in the degree to which they are experienced as stressful.

Brown and McGill (1989) in Anshel and Kaissidis (1997) found out that people with low self-esteem were likely to show an increase in the number of illnesses when negative events happen to them. Similarly daily hassles such as noise, traffic congestion and even household or college work can be stressful. It is not the intention of this study to go into the details of sources of stress but just to mention that the last two categories of stressors, important life events and daily hassles were likely to affect college students more than catastrophes. It is also important to point out that substantial individual differences exist in the levels of problems that are associated with stressful experiences. To this, Compas, Malcarne and Fandacaro (1988) suggest that this variability is in part due to methods used by children and adults to cope with adverse events. This research presents its findings on some of the causes of stress among Mkoba Teachers' College students.

### Methodology

The sample comprised 100 students made up of 52 female and 48 male students from a third year student population of 226 females and 215 males totalling 441 students. The sample represented 22,7% of the population. At the time of the study, the students were in their second term of the final year.

In this study, proportional stratified random sampling was used. Since there were 8 classes of third year students, proportional stratified random sampling was used to ensure fair and equal representation of participants from each class and subsequently from each group. The resident or non-resident status of the students was also considered for sampling. The statistics for the population class by class were obtained from college records.

In reference to the kind of sampling used, Van Dalen (1979:133) says, "Proportional stratified sampling enables one to achieve greater representativeness in the sample'. This technique requires selection of units at random from each stratum in proportion to the actual size of the group in the total population.

Table 1 below shows the sample of participants class by class.

**Table I : SAMPLE OF PARTICIPANTS CLASS BY CLASS**

Class	Population	Female Resident		Female non-resident		Male resident		Male non-resident		Total Sample
		Total	Samp	Total	Samp	Total	Samp	Total	Samp	
3A	53	37	8	11	3	5	1	0	0	12
3B	55	20	5	4	1	26	6	5	1	13
3C	57	21	5	4	1	28	6	4	1	13
3D	56	24	5	2	1	26	6	4	1	13
3E	53	19	4	6	2	22	5	6	1	12
3F	57	17	4	11	2	22	5	7	2	13
3G	55	23	5	4	1	19	4	9	2	12
3H	55	14	3	9	2	26	2	6	1	12
Total	441	175	39	51	13	174	39	41	9	100

The sample in Table I responded to a questionnaire. However the researcher went further to interview 10% of the subjects who had responded to the questionnaire.

## The Zimbabwe Bulletin of Teacher Education

For the purposes of maintaining proportional representation of the sample, the interview sample was obtained according to the strata mentioned earlier with the calculation based on the whole year group. The formula used to get this sample was:

$$\frac{\text{Sub-sample (Resident or Non-resident/Female or Male X 10)}}{\text{Sample per year group}}$$

$$\begin{aligned} \text{e.g.} & \quad \frac{33 \times 10 \text{ students}}{100} \\ & = 3,3 \\ & = \underline{3 \text{ students}} \end{aligned}$$

**Table 2 SAMPLE FOR QUESTIONNAIRE AND FOR INTERVIEWS**

Classes	Female resident		Female non-resident		Male resident		Male non-resident		Total samples	
	Quest	Intw	Quest	Intw	Quest	Intw	Quest	Intw	Quest	Intw
3A-3H	39	4	13	1	39	4	9	1	100	10

### Instruments

As this study was a survey, the questionnaire (see Appendix 1) was found to be the most suitable instrument for data collection. The questionnaire was meant to solicit from subjects, their views on stress antecedents among teachers' college students. The close ended items simply required respondents to indicate by way of a tick, whether they Strongly Agreed (S.A.); Undecided/Neutral (U/N); Disagree (DA) or they Strongly Disagreed (SDA). The questionnaire did not give respondents room for verbal explanations which must have minimised variations in the responses obtained.

The questionnaire also enabled the researcher to pre-test its suitability. After protesting the researcher was able to improve the instrument as was seen fit. This way,

## O. Mavundutse

"The instrument was refined and subjected to the same evaluative criteria of validity, reliability and objectivity as tests, scales and other measurement instruments," (Van Delan 1979:153). This is necessary because it ensures accurate and reliable results. The other advantage was that the researcher personally distributed and collected the questionnaire resulting in high returns. Respondents scored by ticking against the preferred response on the Likert scale. Coding of responses was done by counting those who had ticked the same responses. The totals were then expressed to percentages of the total number of respondents.

Interviews were also done with 10% of the initial sample which was 10 subjects. The interviews were meant to compliment the questionnaire. An interview schedule was used (see Appendix 2). As suggested by Borg and Gall (1983), by using the questionnaire and the interview schedule, the researcher meant to compare the relative accuracy of the information obtained using the two instruments.

For the purposes of data presentation and analysis, the first two columns of the questionnaire, i.e. Strongly Agreed (S.A.) and Agreed (A) were collapsed into one column Agreed. The argument for doing this was that, whether a respondent strongly agreed or simply agreed, the fact was that they agreed. Similarly, the last two columns on the same questionnaire i.e. Disagree (D) and Strongly Disagree (SDA) were also collapsed. The argument by the researcher was that disagreement was disagreement regardless of the degree of disagreement. This collapsing left the researcher with three columns which were Agree (A) Undecided/Neutral (U/N) and Disagree (D). Cone and Foster (1993) recommend collapsing of raw data for easy presentation and analysis.

**Data Presentation and Analysis**

**Table 3 - Students responses on possible sources of stress while in third year (on campus) 1(N=79)**

Possible Source of Stress	RESPONSES					
	A		N/U		DA	
	f	%	f	%	f	%
<b>Adjusting to college life</b>	47	73.5	6	7.5	26	19
<b>Lecture attendance in:</b>						
Theory of Education (TOE)	36	45.5	4	5.1	39	49.4
Main subject	33	41.8	8	10.1	38	48.1
Professional Studies B	36	45.6	11	13.9	32	40.5
Professional Studies A	42	53.2	11	13.9	26	32.9
<b>Writing Assignments in:</b>						
Theory of education	67	84.8	2	2.5	10	12.7
Main Subject	48	60.8	2	2.5	29	36.7
Professional Studies B	46	58.2	8	10.1	25	31.7
Professional Studies A	50	63.3	5	6.3	24	30.4
Looking for information in the library	54	68.4	7	8.9	18	22.7
Amount of work to be done (work load)	71	84.9	2	2.5	6	7.6
Being a non-resident student (if applicable)	68	86	1	1.3	10	12.7
Sharing a hostel room	68	86	1	1.3	10	12.7
<b>Examinations in:</b>	36	43	12	15.2	31	41.8
Theory of education						
Main subject	71	89.9	4	5.1	4	5
Syllabus A	59	74.7	7	8.9	13	16.4
<b>Group Discussions for:</b>	62	73.4	8	15.2	9	11.4
T.O.E. seminars						
Assignment writing	42	53.2	14	17.7	23	29.1
<b>Educational Media and Technology (E.M.T.)</b>	66	83.5	6	7.6	7	8.9
Participation in sporting activities	20	25.3	17	21.5	42	53.2
<b>Consultation for:</b>	17	21.5	11	13.9	51	64.6
Assignments						
C.D.S	39	49.4	13	16.5	27	34.1
<b>Principals time</b>	60	75.9	6	7.6	13	16.5
	11	13.9	13	16.5	55	69.6

From Table 3, it can be observed that the majority of the third year students, (73,5%) agreed that adjusting to college life was stressful, 7,5% were neutral while 19% rated it as no source of stress. 70% of the third year respondents interviewed rated adjustment to college life as stressful. Some of the reasons given by these respondents were that each year (first, second and third) and each course in college had different expectations which made a student's adjustment to college life difficult and stressful.

On lecture attendance as a source of stress, only 30% of the respondents to the questionnaire saw lecture attendance in Theory of Education in (T.O.E) as stressful. A similar percentage interviewed expressed the view that T.O.E. was problematic hence stressful as it was presented by different lecturers with different cognitive demands on the student.

Interviewees also said the stress was worsened as one moved from one foundation area to another. Students met Educational Psychology, Sociology of Education and Philosophy of Education for the first time at college hence lectures in these areas were often stressful. On the contrary, most interviewees felt Main Subject or Academic Study was less stressful because most students did the subjects they had done at 'O' or 'A' level. However, Mathematics, Science, Music and Home Economics were identified as potential sources of stress. Students claimed that generally content in these subjects was often over demanding and stressful.

While students indicated T.O.E. as not as stressful, assignment writing in the same area was rated as very stressful by 84.8% of the respondents. 80% of the interviewees supported this view. The reasons for this stress ranged from problems students experienced in getting suitable information down to the seriousness that was attached to T.O.E. as regards passing or failing the course. Students said failing at first year could imply being withdrawn or repeating while failing at third year could be disastrous. At Mkoba Teachers' College, at the time of this study, course work (assignments) constituted 60% of the final mark hence this was a source of stress for most students.

Almost like Theory of Education (T.O.E), Professional Studies (Syllabus A) assignments had a stress rating of 63.3% by the respondents. Again like Theory of Education (T.O.E), Professional Studies (Syllabus A) had a course work and examination weighting of 60% and 40% respectively. Given this, students expressed justification in being stressed by assignments from both subjects.

Looking for information in the library was rated among the top 10 stressors. 68.4% of the questionnaire respondents and 80% of the interviewees felt that the use of the library was a source of stress. The majority of the interviewees noted that it was not students' failure to use the library that stressed them but, the small numbers of valuable books in relation to the number of users.

Some interviewees claimed that one might spend three years in college having never laid their hands on a copy of an important book like Haralambos's *Sociology of Education* in the college library. This was a potential source of stress.

The amount of work (work load) was rated heavily as a stressor. 84.6% of the respondents rated the workload at college as a stressor. 90% of the interviewees summed it up by saying, "the primary teachers' course was a killer." Problems cited by students included too many assignments; too many lectures to be attended leaving the student stripped of time to rest, relax and sleep. The results agree with Harari, Jones and Sek's (1988) findings on American and Polish college students, and those by Keinan and Perelberg (1987) on American and Israeli academicians which concluded that heavy work load was a stressor for college students.

While students' responses to other stressors can be read from Table 3, it is worth discussing substantially responses to consultations for Curriculum Depth Study (C.D.S.). This is necessary because this activity appeared to be one of the major sources of stress among Teachers' College students. While 90% of the interviews expressed consultation for C.D.S. as stressful, 75.9% of the questionnaire respondents expressed the same view.

Most of the interviewees expressed anger at the observation that C.D.S. consultation time was often taken by staff meetings and/or staff development sessions. Some interviewees also expressed stress arising from the fact that sometimes what a lecturer passed as correct today could be declared incorrect by the same lecturer the next day. This problem was worse if a student changed supervisors for one reason or another. Generally, participants felt C.D.S. related issues and activities were very stressful.

Non-resident status was said to cause untold stress to students as it brought about other related problems. Participants claimed that if a student was renting a room in the suburbs, this had serious financial implications to meet rental, food (sometimes) and transport costs. Such a student normally had very little or no time for the library and for discussions with college mates. Being a primary teachers' college, students at Mkoba Teachers' College did all the subjects (11) for their Professional Studies Syllabus B. This resulted in a congested timetable, clash of due dates for assignments as subject areas considered themselves individually instead of having coordinated assignment programmes. However students acknowledged that clustering of subjects had improved the situation.

To summarise on the sources of stress while students were on campus, below is a table showing the top ten stressors (in rank order).

**Table 4: Rank order (highest to lowest) of top 10 sources of stress among their year students**  
**N = 79**

		Responses	
		f	%
1	Theory of Education examination (T.O.E.)	71	89.9
2	Being a non-resident student	71	89.9
3	Amount of work (work load)	68	86.0
4	Theory of Education assignments (TOE)	67	84.8
5	Group discussions for assignment writing	66	83.5
6	Consultations for Curriculum Depth Study (CDS)	60	75.9
7	Main Subject examinations	59	74.7
8	Adjustment to college life	47	73.5
9	Syllabus A examinations (Professional Studies)	46	73.4
10	Looking for information in the library	45	68.4

### Conclusion

Much as the researcher is aware that stress is a psychological phenomenon that affects the whole person and that there are many factors that cause it, this research, concerned itself with studying causes of stress among Teachers' College Students mainly arising from college work and related activities. Perhaps, another study could be carried out so as to investigate the stress levels arising from factors such as relationships with others, health, finances, sexual matters, age and many others. It appears, most of the causes of stress among teachers and college lecturers established by Nyanhongo (1990) and Chakaza (1994) are quite similar to the findings of this study. The main source of stress in the three studies is heavy workload.

**Recommendations**

From the findings, this research wishes to recommend that:

- Teachers Colleges need to establish serious counselling programmes for students' benefit .
- Primary Teachers Colleges need to stream line and coordinate assignments so as to reduce students' workload without compromising standards.
- Lecturers need not tell students that some subjects are more important than others hence failing them may mark the end of the world for the student.
- The amount and quality of induction done at the beginning of the course appears to have a positive/negative bearing on students' survival during the three years at college. This calls for well designed induction programmes that are on-going not those that suddenly end in the first week of year one at college.
- Colleges may also want to review their curriculum so as to decide whether they need to continue to offer the courses they offer in the way they offer them. Perhaps there is room to free some time for students to work without being stressed.

**References**

- Anshel, M. A. and Kaissidis, A. N. (1997) Coping style and situational appraisals as predictors of coping strategies following stressful events in sports as a function of gender and skill level *British Journal of Psychology*, 88, 276-286.
- Chakaza, J. (1994) Causes of Stress among Teachers' College Lecturers in Manicaland. (Unpublished MEd. Dissertation).
- Compas, B. E., Malcarne, V.L. and Fondacaro, K. M. (1985) Coping with stressful events in older children and young adolescents: *Journal of Counselling and Clinical Psychology*, 56 (3) 405-445.
- Cone, J. D. and Foster, S. L. (1993) *Dissertations and Theses : From start to finish, psychology and related fields*. American Psychological Association.
- Harari, H. et al (1988) Stress Syndromes and Stress predictors in American and Polish College Students: *Journal of Cross-Cultural Psychology* 19 (2) 243-255.
- Keinan, G. and Perlberg, A. (1987) Stress in academe : A Cross-cultural comparison between Israeli and American academicians; *Journal of Cross-Cultural Psychology*, 18 (2) 193-207.
- Kobasa, S. C. (1979) Stressful Life Events, Personality and Health: An inquiry into Hardness. *Journal of Personality and Social Psychology* 37, 1-11.
- Lazarus, R. S. and Cohen, J. B. (1977) Environmental Stress in Attman, J. and Wotilwill, J. F. (eds) *Human Behaviour and the Environment: Current theory and research*; New York, Plenum Press.
- Martlin, M. W. (1995) *Psychology*; New York, Harcourt Brace College.
- Masuda, M. and Holmes, T. H. (1978) Life events : Perceptions and Frequencies; *Psychosomatic Medicine* 40, 236-261.

The Zimbabwe Bulletin of Teacher Education

- Masuda, M. and Holmes, T. H. (1967) The Social Readjustment Rating Scale: A Cross-cultural study of Japanese and Americans: Journal of Psychosomatic Research. 2, 227-237.
- Myers, D. G. (1989) Psychology; New York, Worth Publishers.  
The Zimbabwe Bulletin of Teacher Education
- Nyanhongo, S. (1990) A Study on Stress among teachers in urban government secondary schools in Midlands Province of Zimbabwe. (Unpublished MEd. Dissertation).
- Rathus, S. A. (1987) Psychology; London, Bacon Publishers. Scarr, S. and Vander-Zanden, J. (1987) (5th ed.) Understanding Psychology. New York, Random House.
- Taylor, S. (1983) Stress and Cognition: Journal of Clinical Psychology 45 (6) 801-830.
- Van Dalen, D. B. (1979) Understanding Educational Research: An Introduction. New York, McGraw Hill Inc.

**Appendix I****Student Teacher Stress Antecedents Questionnaire (S.T.S.A.Q.)**

The following are possible sources of stress among Teachers' Colleges Students while on campus. Please indicate with a tick ( ) against each item to show whether you Strongly Agree (SA); Agree (A); Undecided/Neutral (U/N); Disagree (DA) or Strongly Disagree (SDA).

Possible Source of Stress Among Students	Responses				
	SA	A	U/N	DA	SDA
1. Adjusting to college life					
2. Lecture attendance in: Theory of Education (TOE) Main Academic Subject Professional Studies B Professional Studies A					
3. Writing assignments in: Theory of Education (TOT) Main/Academic subject Professional Studies B Professional Studies A					
4. Look for information in the library					
5. Amount of work (work load)					
6. Being a non-resident student (if applicable)					
7. Sharing a hostel room					
8. Examinations in: Theory of Education (TOE) Main/Academic Subject Syllabus A					
9. Participation in sporting activities					
10 Consultation for: Assignments Curriculum Depth Study (CDS)					

**End of Questionnaire**

**Appendix 2**

**Student Teacher Stress Antecedents**

**Interview Schedule (S.T.S.A.I.S.)**

1. Main Subject:.....

2. C.D.S. Subject:.....

3. While at College: Resident  Non-resident

4. If non resident, nature of accommodation:

Own house

Stay with relative

Share rented room with a friend

Rent a room alone

5. Do you think there are stressful events or situations for students on campus?

Yes

No

6. If yes, please identify five such events/situations.

6.1 .....

6.2 .....

6.3 .....

6.4 .....

6.5 .....

7. Name five of your college courses that stress you.

7.1 .....

7.2 .....

7.3 .....

O. Mavunduste

- 7.4 .....  
7.5 .....

8. Please number the following college programmes in rank order so that number one is the most stressful and number five is the least stressful to you.

- 8.1 Theory of Education (T.O.E.)   
8.2 Main/Academic study   
8.3 Professional Studies Syllabus A   
8.4 Professional Studies Syllabus B   
8.5 Professional Studies Syllabus C (C.D.S.)

9. Why do you say No. 1 above (in your rank order) is the most stressful?

.....  
.....  
.....  
.....

10 List 3 other college programmes besides those above that stress you.

10.1.....  
10.2.....  
10.3.....

11 Give three reasons why sharing a college room with another student is stressful?

11.1.....  
11.2.....  
11.3.....

The Zimbabwe Bulletin of Teacher Education

12 Please suggest any other 3 sources of stress among student teachers while on campus (Not on T.P.).

12.1.....

12.2.....

12.3.....



This work is licensed under a  
Creative Commons  
Attribution – NonCommercial - NoDerivs 3.0 License.

To view a copy of the license please see:  
<http://creativecommons.org/licenses/by-nc-nd/3.0/>

This is a download from the BLDS Digital Library on OpenDocs  
<http://opendocs.ids.ac.uk/opendocs/>