Abstract: The Common Industry Format (CIF) provides an industry standard for the reporting of usability test results. The ongoing success of the CIF will in part be determined by the support of future IT professionals. The work reported in this paper describes our experience in adapting and using the CIF in an introductory Human-Computer Interaction course which is a core subject in a large proportion of the IT related degrees offered by our Australian University. It also examined subsequent student perceptions about the usefulness and ease of use of a CIF-style template and the degree to which they were able to generate CIF-compliant reports. It was found that few modifications to the template were required to meet the educational objectives of the course. Overall, students were neutral as to whether the CIF as a useful or easy to use device, but were able to generate moderately compliant reports. Comments from students indicated that more formal training in the CIF may be useful, rather than letting the template stand alone.

Author Address: oburmeister@csu.edu.au

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Common Industry Format:
Meeting Educational Objectives and Student Needs?

Abstract

The Common Industry Format (CIF) provides an industry standard for the reporting of usability test results. The ongoing success of the CIF will in part be determined by the support of future IT professionals. The work reported in this paper describes our experience in adapting and using the CIF in an introductory Human-Computer Interaction course which is a core subject in a large proportion of the IT related degrees offered by our Australian University. It also examined subsequent student perceptions about the usefulness and ease of use of a CIF-style template and the degree to which they were able to generate CIF-compliant reports. It was found that few modifications to the template were required to meet the educational objectives of the course. Overall, students were neutral as to whether the CIF as a useful or easy to use device, but were able to generate moderately compliant reports. Comments from students indicated that more formal training in the CIF may be useful, rather than letting the template stand alone.

1. Introduction

The National Institute of Standards and Technology (NIST) proposed that a common standard (to be known as the Common Industry Format) be used to report user-based evaluations of software. NIST envisages that:

> *"The overall purpose of the Common Industry Format (CIF) for Usability Test Reports is to promote incorporation of usability as part of procurement decision-making for interactive products. It provides a common format for human factors engineers and usability professionals in supplier companies to report the methods and results of usability tests to consumer organizations."* [NIST (1999)].

A key factor in the success of the CIF will be industry acceptance of the format as a reliable source of consumer information. Some work has already been done in this area, with the work by Boeing and Oracle being highlighted (Morse, 2002). However, if the standard is to be successful it will also need the support of future managers, software developers and the Human-Computer Interaction (HCI) profession. One way of achieving this is to include it as part of the training of the professional body. A positive experience with the CIF in undergraduate academic courses should enhance its future acceptance in the industry. It should also assist future IT professionals in making an informed interpretation of CIF reports later in their working life and, if the need arises, better prepare them to generate their own CIF reports. Therefore, it is important to consider how the CIF can be successfully incorporated into an academic teaching environment.

A factor that may impact on the successful introduction of the CIF is the nature of its user group; the potential users of the document will have a wide variety of background and skills. Not all usability professionals will be products of a North American education (where CIF was primarily developed), or have a background in psychology, or even a background in software development. Further, given the global nature of the software industry, it is important to ensure that people with a wide range of English skills are able to use the CIF. These issues contributed to our deciding to examine the use of the format in detail.

An issue of concern to us was the degree to which we would have to explicitly support student learning of the CIF. Teaching time is valuable, and ideally we hoped that the material produced by NIST about the contents of the CIF (i.e., the template and guidelines) would stand alone (along with appropriate instruction about usability testing) in enabling students to generate their own reports. One of the aims of this study was to help us determine what if any additional support might be required to assist students in learning about the CIF. In addition, we were also interested in exploring student perceptions of working with the CIF. The benefits of teaching CIF in an undergraduate curriculum would be reduced significantly if students did not find the template useful or easy to use. Even if students were able to generate a CIF-compliant report, a negative experience would not assist in gaining acceptance for the CIF.

An additional aim was to explore whether students whose first language is not English faced problems in using the CIF. This part of the study was feasible because a substantial number of International students were undertaking the course at the time, thereby making it possible to compare students for whom English was a first language (EFL) and those for whom English was a second language (ESL).

The study described here used the CIF as the basis of a reporting template for two assignments in an introductory HCI subject in an Australian university. In the setting up phase of the study, it was necessary to modify a draft version of the CIF to meet the educational objectives. In the following phase, surveys were

performed to determine students' attitudes to using the CIF. These surveys were administered immediately after the submission of mid-semester and end-of-semester assignments. The data collected included both Likert-style responses to questions on attitude and open-ended comments.

2. The CIF

At the time this study was conducted the CIF was a draft proposal to standardise the manner in which user-based evaluations are reported. As of December 2001, it has become an ANSI standard (ANSI/NCITS 354-2001), and is being proposed as an international standard for reporting on usability testing. NIST provides the CIF in three forms: a detailed description, a template and a checklist. The detailed format provides short examples, explanations and elaboration on key points. The template format consists of the main section headers and brief descriptions of what is required for each section. The checklist is similar to the template but in a checklist format rather than document format.

Our aim in introducing the CIF to introductory HCI students was to provide them with a report writing format that (a) has industry support and therefore will be of value to them when they complete the course, (b) is replicable, and (c) provides students with a better understanding of the process of usability testing. The CIF standard appears to fulfil these requirements in that it provides well-motivated standardized guidelines that promise industry support. In addition, the structure of the report not only provides guidelines about how to write a usability report, it also ensures that practitioners think about important issues such as participant selection and context of use.

2.1. The CIF in an educational context

In an educational environment where the aim is to expose students to a variety of evaluation techniques, students were required to (a) conduct and write a report on the heuristic evaluation of a website, and (b) conduct and write a report on a user-based evaluation of their modified version of the original website. For the reporting they were to use the CIF. However, the format is specifically designed around summative, user-based evaluations, which posed a problem.

In our particular course we were adamant that we wanted students to conduct and write reports on both heuristic and user-based evaluation methodologies. As the CIF does not accommodate the reporting of heuristic evaluation, we considered using a different format here. However, it was decided that a modified version of the CIF was preferable. We realised problems might arise in attempting to make the CIF fit a task it was not designed for, but it was argued that this potential problem was outweighed by the benefits to the students of maintaining some level of consistency. Thus, we developed a version of the CIF that accommodated a heuristic approach. In addition, minor modifications were made to both versions to match other educational aims of the course.

The following section describes in detail how the CIF was modified for the needs of our course.

2.2. Customizing the CIF

For our course two adapted versions of the CIF template were used; one suitable for heuristic testing and the other maintaining the user-based testing focus. An important aim of the course is to demonstrate the iterative nature of software development and evaluation. Therefore, a section was added to the CIF for students to discuss their results and make recommendations for re-design of the tested product. The sections related to experimental design and detailed statistical analyses were omitted from both versions, as these were not related to the learning objectives of the assignments.

The heuristic evaluation template required relatively major changes to the results sections of the CIF, and several minor changes to the wording of sections (i.e. participant to expert). This was to ensure it fitted with an evaluation procedure based on Nielsen's 10 usability heuristics [1]. The user-based template did not differ significantly from the original CIF layout, except for changes to the basic format outlined above. Table 1 lists the modifications made.

In addition to the templates, students also had access to an unedited copy of the CIF guidelines, a CIF check list and the NIST sample report, "DiaryMate". However, we cannot be sure as to the extent students made reference to any of these documents apart from the template itself.

3. Student Perceptions of the CIF

The second phase of the study involved assessing student perceptions of how easy the CIF was to use and the degree to which they felt it was useful to them. Students were asked to complete surveys after handing in each report, to collect demographic information and to probe their perceptions about the CIF. The surveys also collected information about the student's previous experience with report writing and motivation to continue study in the usability domain. Students were also asked to rate their English skills. The demographics and the English skills information were used to identify students from non-English speaking backgrounds. The following section describes the method used to conduct the survey.

Table 1: Summary of Modifications Made
(Legend: H = Modifications made to CIF for heuristic testing;
U = Modifications made to the CIF for user based testing)

Section in CIF	Report	Modifications
Title Page	H, U	Tester and client details were changed to represent student teams and course information
Executive Summary	H, U	Results were described verbally at a high level, rather than detailed statistics
Introduction		
Full Product description		Unchanged
Test Objectives	U	Required the description of usability goals, and why each was important to the design
Method		
Participants	H	This section was changed to 'Expert Reviewers' for the CIF intended for heuristic evaluation. Relevant details in this section were still collected.
Tasks	H, U	Required a task analysis to be completed for each task scenario
Test Facility		Unchanged
Participants Computing Environment	H	Changed the title to 'Experts Computing Environment'
Test Administrator Tools	H	This section was used to describe and justify the heuristics used for evaluation
Experimental Design	H, U	This section was removed
Procedure	H U	This section was detailed how the heuristic evaluation was conducted Operational definitions of independent and control variables were removed
Participants General Instructions	H	Removed
Participant Task Instructions	H	Removed
Results	H	This section summarized the results from the heuristic evaluation. All subsections were removed
Data Analysis	U	The need to describe statistical tests performed was removed
Presentation of Results		Unchanged
Discussion	H, U	This section was added to allow students the opportunity to discuss and make recommendations based upon results.
Future Work	H	This section was added to allow students to describe intended changes to their prototype

3.1. Method

3.1.1. Participants

Undergraduate and graduate students undertaking an Introduction to Human-Computer-Interaction subject at an Australian university were the participants in this study. There were 173 students enrolled in the course at the end of semester. The students were surveyed twice. 103 of the 173 satisfactorily completed the survey after completing the heuristic report and 77 after completing the usability report. The section on Procedure discusses the low return rate for Survey 2. A survey was considered satisfactorily completed if the participant had completed all demographic information and at least 85% of the survey questions. Eight surveys were classified as unsatisfactorily completed and were excluded from analysis.

The median age of participants in both surveys was 23, with a range of 19-50. 76% of respondents in Survey 1 were male, and 83% of Survey 2. This reflected the course enrolment figures of 76% male.

3.1.2. Materials

To assess the student's perception about the usefulness and ease of use of the CIF, we developed a survey using our own scales. It contained four main sections: *Demographics*, *Experience and motivation*, *Attitudes towards the CIF*, and a *Comments* section.

Section 1: Demographics: The aim of this section was to obtain demographic information from the participants. Respondents were asked to report their age, gender, program (undergraduate or post-graduate), the country they were born in, their number of years in Australia and the language spoken at home when growing up. The last three questions were important to

help distinguish between students with English as a first language (EFL) and those with English as a second language (ESL).

Section 2: Experience and motivation: The aim of this section was to gauge the pre-existing skills of participants and their aspirations towards further work in HCI. These questions were designed to provide an indication of their level of motivation towards doing well in HCI (i.e., *I would like to work in the usability area in the future*). They also determined the level of involvement in using the CIF during the course of their project (i.e., *My contribution to the project required extensive use of the CIF*). Questions relating to the students self-rated proficiency in English were included to establish whether the ESL group were less confident of their English skills than their EFL counterparts. (e.g., *I speak English well*) Participants were asked to respond to each of the statements on a five-point scale from "Definitely Agree" (5) to "Definitely Disagree" (1).

Section 3: Attitudes towards CIF: This section contained three scales: *Usefulness*, *Ease of Use* and *Skill Acquisition*. Participants were asked to respond on a five-point Likert style scale from "Definitely Agree" to "Definitely Disagree". Half of the statements were phrased negatively. There were six Usefulness questions related to the usefulness of the CIF in report writing (e.g., *In my opinion, the CIF made it difficult to write a coherent report*) and planning the study (e.g., *The CIF helped me understand what is required to conduct a usability study*). Eight questions about the Ease of Use of the CIF template related to its understandability, clarity and consistency (e.g., I *feel that someone with limited usability experience would have no trouble using CIF*) and the efficiency of using the CIF to write a report (e.g., *I spent more time worrying about how to write the report than planning and conducting the study*). One question targeted Skill Acquisition (i.e., *I understand the reasons behind the sections of the CIF*).

Section 4: Open-ended comments: An open ended question was also provided at the end of the questionnaire to elicit any further comments that the participant had pertaining to the CIF (i.e., *Is there anything else you would like to tell us about your experiences using CIFs?*).

3.1.3. Procedure

Both surveys were administered during a tutorial. The person administering the survey was not involved with the teaching or assessment of the students. The students were advised that they were not required to fill in the survey, but that it would be very helpful in assessing teaching practices and the usefulness of the CIF in HCI training. The tutor left the room until all surveys had been collected.

The survey was administered immediately after the first (heuristic evaluation) report was submitted in mid-semester and again after the final (user-based evaluation)

report was submitted. The latter was an optional review tutorial. Many students took the option not to attend. For this reason, participant numbers in Survey 2 were not as great as in Survey 1.

4. Results

Student responses to the survey were entered into a database. Negatively phrased questions were reversed scored so that a "Definitely Disagree" response to a negative statement was scored positively. Positive responses were assigned a higher number than negative responses (i.e. "Definitely Agree" to a positive statement scored a rating of 5, whereas a "Definitely Disagree" to the same statement scored a rating of 1). Thus, high ratings corresponded to positive attitudes towards the CIF.

Cronbach alpha reliability coefficients validate the consistency of responses and the suitability of question. To assess the internal consistency of the two scales, the Cronbach alpha coefficients were calculated for both Usefulness and Ease of Use. These were within the acceptable range, $\alpha = 0.7695$ for the Usefulness scale and $\alpha = 0.7006$ for the Ease of Use scale. These results indicated that a summation of scores within the two scales was justified and this was subsequently done.

Although we surveyed the same group of students in Survey 1 and 2 we were unable to track individuals response across both surveys, nor could we ensure that the same sample of students responded to both surveys. Therefore, the Survey variable has been treated as a non-repeated measure in all analyses.

4.1. Participant Experience and Motivation

The level of agreement with the statement "I would like to work in the usability area in the future" was used to gauge the respondent's level of motivation for using the CIF. The mean response was only just above the neutral level ($M = 3.25$) indicating that as a group the students were ambivalent about furthering their knowledge of usability. Figure 1 shows that there appears to be a drop in motivation from Survey 1 to Survey 2. However, an independent t-test indicated this difference was not significant ($t(177) = 1.747$, $p > .05$). The overall low level of motivation probably reflects the fact that our HCI is a compulsory subject in degrees that have a heavy programming bias.

Figure 1 also shows the mean agreement rating in Survey 1 and 2 for statements relating to their experience in report writing and their personal involvement with the CIF. Respondents rated their experience at report writing as just less than the Agree value ($M = 3.46$), indicating that as a group they did not feel very experienced with report writing. Their rating of involvement in using the CIF was also quite low ($M = 3.78$). This may reflect the fact that the

assignments were group based and use of the CIF may have been delegated to one or two members of the team.
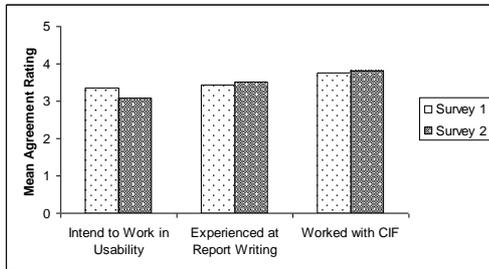

Figure 1: Mean Agreement Ratings for Usability Work Intention, Experience in Report Writing and Work with CIF as a function of Survey. High ratings indicate higher level of agreement with survey statements.

4.2. Participant Language Skills

In both surveys, students were asked to indicate what language they spoke when growing up. Students who nominated a language other than English were classified as English as a Second Language (ESL) group. The remaining students were classified as the English as a First Language (EFL) Group. To confirm that the two groups differed on language skills, their self-rated English skills were compared. Cronbach alpha reliability coefficients were calculated across the three self-rated English skills measures (speaking, writing and reading). The alpha value was high ($\alpha = 0.917$) indicating that a summation of scores over the two scales was justified. This was subsequently done and the two language groups were compared on their mean self-rated English skills.

Table 2 shows the mean self-rated English Skills for the ESL and EFL groups in Survey 1 and 2. A two-way non-repeated Analysis of Variance (Survey x Language Group) indicated that there was a significant difference between the self-rated English skills for ESL and EFL groups ($F(1,175) = 102.37$, $p < 05$). The ESL group rated themselves as significantly less skilled in English than the EFL group, and there was no significant difference between the overall self-rated English Skills across Survey 1 and 2 ($F < 1$). Neither was there an interaction between Survey and Language groups on self-rated English skills ($F < 1$). These results showed that the ESL and EFL groups were clearly differentiated by their English skills.

Table 2: Mean self-rated English Skills (SD in parentheses) and number of students as a function of Survey and Language Group[1]

	ESL	**EFL**
Survey 1	3.80 (.79) $n = 59$	4.87 (.36) $n = 43$
Survey 2	3.86 (.75) $n = 47$	4.81 (.42) $n = 30$

4.3. Student Perception of the CIF

The overall mean Usefulness rating was 3.71. Thus, as a group, the students agreed that the CIF was useful to some extent. Figure 2 shows the mean Usefulness Rating for the ESL and EFL groups in Survey 1 and 2. A two-way non-repeated Analysis of Variance (Survey x Language Group) indicated that there was a significant difference between the two survey groups ($F(1,176) = 4.90$, $p < .05$). Overall, students rated the CIF as more useful in Survey 2 ($M = 3.80$) than in Survey 1 ($M = 3.61$). There was no significant effect of language group on the students' perception of the usefulness of the CIF ($F(1,176) = 2.60$, $p > 05$). There was no interaction between Survey and Language Group on perceived usefulness ($F < 1$).
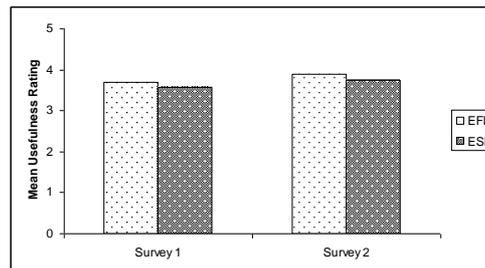

Figure 2: Mean usefulness rating as a function of Survey and Language Group

The overall mean Ease of Use rating was 3.17 indicating that in general the students did not perceive the CIF to be particularly easy or difficult to use. Figure 3 shows the mean Ease of Use Rating for the ESL and EFL groups in Survey 1 and 2. A two-way non-repeated Analysis of Variance (Survey x Language Group) indicated that, as for usefulness, there was a significant difference between the two survey groups ($F(1,176) = 7.18$, $p < 01$).

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[1] One student did not complete the English skills questions. However, their demographic data clearly indicated an ESL background and they are included in all other analyses.
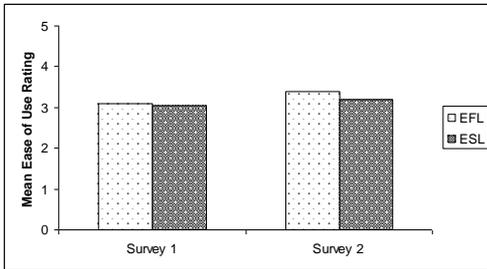
Figure 3: Mean ease of use rating as a function of Survey and Language Group

Overall students rated the CIF as slightly easier to use in Survey 2 ($M = 3.27$) than in Survey 1 ($M = 3.07$). Once again, this may be because the students felt more familiar with the CIF, having used it previously for their first report. There was a marginal effect of language group on the student's perception of how easy the CIF was to use ($F(1,176) = 2.75$, $p < 10$). The ESL students rated the CIF as being slightly less easy to use ($M = 3.10$) than the EFL students ($M = 3.22$). Thus, although the ESL students found the CIF useful, they tended to rate it as less easy to use than the EFL students. There was no interaction between survey and language group on perceived usefulness ($F < 1$).

Figure 4 shows the mean Knowledge Rating for the ESL and EFL groups in Survey 1 and 2. A two-way non-repeated Analysis of Variance (Survey x Language Group) indicated that there was no significant difference between the two survey groups ($F(1,176) = 2.48$, $p > 05$). There was also no significant difference between the language groups ($F(1,176) = 1.56$, $p > 05$). There was no interaction between survey and language group on perceived knowledge ($F < 1$).
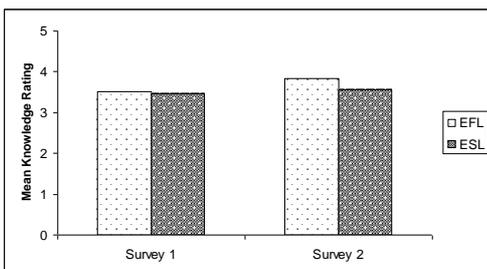

Figure 4: Mean Knowledge rating as a function of Survey and Language Group

4.4.   Comments Data

Examination of the comments made by students at the end of the survey suggested that the CIF was relatively well received by some students. For example, a 28-year-old Japanese male wrote that the CIF was "*Very good, if only every subject has some standard format like CIF*" and a 22-year-old Swedish female wrote that "*It is good to use the CIF at university, to get familiar with it at an early stage before using it in a professional environment.*"

However, some students did appear to have difficulties with its ease of use. For example, a 22-year-old Australian female indicated that "*A standard format is useful but this format is difficult to use.*" A number of students appeared to have difficulty with the terminology, e.g., "*It would be helpful if the English used was just a little more understandable*" (20-year-old Australian male) and "*…the section on data interpretation was very unclear.*" (21-year-old Australian male) and felt more instruction in its use would be beneficial, e.g., "*There should be more explanation on how to use the CIF*" (23 year old Thai male).

Two students felt that there was a conflict between the industry-based nature of the CIF and the educational environment, i.e., "*… the two different uses (industry and education) cannot be used interchangeably without further instruction.*" (19-year-old Australian Male), and "*I think it was a bit technical or industry-based, so we got mixed up with a few terminologies.*" (21-year-old Indian male).

A large number of students from the ESL group, in particular, refrained from writing any additional comments. This may reflect their lack of confidence in English, or perhaps they did not have enough time to comment due to the extra time required to read and answer the questionnaire.

5. Student Assessment Data

The final phase of the study involved examining the reports generated by the students using the CIF template. When the assignments were marked tutors were asked to record the degree to which students completed each section in accordance with the requirements of the templates. The sections were defined as in Table 1. If the student included all of the required material listed for each section of the template (regardless of quality and quantity), they scored 1 for that section in regards to CIF format. If they had none, or only part of the requirements, they were scored a 0 for that section. They still scored 0 if the appropriate material was included, but it was included in the wrong place. A value representing the percent of sections fully completed was then calculated for each assignment. Five assignments were not included in the analysis of both samples due to missing data. This was due to one tutor not using the standard feedback form. The assignments were completed in groups of 4-5 so the number of assignments is approximately one quarter the total number of students.

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The mean percent of sections fully completed for students in the first (heuristic) assignment was 55.8% ($SD = 25.6$, $n = 39$). In the second (usability) assignment it was 55.6% ($SD = 26.7$, $n = 38$). Students did not improve between the first and second reports. Unfortunately, we were unable to find equivalent data to compare this performance against. However, anecdotal evidence from teaching staff who have used other templates felt that 55% conformance was quite reasonable. Indeed, the overall quality of the work presented by students was good. The mean percentage grade for Assignment 1and 2 were 73.5% ($SD = 20.5$) and 77.5% ($SD = 12.37$), respectively.

Informal feedback from tutors teaching the subject indicated that the quality of the reports seemed better than in previous semesters (all tutors had tutored the subject for at least one previous semester). In terms of quality, all tutors agreed that the students had the most difficulty with the results section, particularly the data analysis section.

6. Discussion

Overall, students did not perceive our CIF template particularly useful or easy to use. Students found the CIF to be more useful in during the completion of their user-based evaluation (second report) rather than their heuristic evaluation (first report). Reasons for this may be that the students had more experience using the CIF during the user-based evaluation, which may have contributed to the increased usefulness rating for the second report. One other contributing factor to the increase in usefulness for user based evaluations may be that the supporting materials for the CIF (i.e. sample reports) are based on the user-based evaluation which would enhance the usefulness of the overall 'CIF package' (i.e. detailed description, template, checklist, and sample reports).

Similar to the usefulness ratings of the CIF template, students found the CIF easier to use for the second report. Again, this may be due to the increasing familiarity the students had with the CIF since they also used it during their first report. It is likely that their knowledge of the CIF and its requirements was also increased due to the feedback that they received on their first report. Also, since the CIF is specifically designed to support usability testing, and there are more supporting materials that can be referred to for a user-based evaluation using the CIF, it is expected that students would have an easier time in understanding the user based version.

There was no significant difference in the perception of usefulness of the CIF between EFL and ESL students. It would appear that neither language group perceived the CIF as useful to them. However, the ESL found the CIF slightly less easy to use. One would expect the ratings of usefulness to be independent of English skills,

as both groups should realize the value of the document. However the ease of use of a document can depend on these skills. It is understandable why the ESL students might have greater difficulty in using the CIF depending on their fluency in the second language, a person may first need to translate the instructions into their own language, and then make use of them. Considering the two-step process there is greater room for error in interpreting the instructions, either in the translation or in the use. Interestingly though, several EFL students did comment on the complexity of the CIF, indicating that the usability of the CIF itself could be improved. The need for this may be alleviated when additional example reports are available for use, as people may be able to find a report that is more suitable to their own evaluation context.

Comments from students indicated that more formal training in the CIF may be useful. In this study students were provided access to written information about the CIF in the form of guidelines, and a NIST sample report in addition to the template. However, informal interviews with the tutors indicated that many students may not have been aware of or used the extra material.

It is suggested therefore, that class time be devoted to explaining the requirements of the CIF, particularly in relation to the results section. This would also assist the ESL students who tend to have difficulty interpreting the terminology used in the template.

7. Conclusion

Overall the students appeared to be under-whelmed by the introduction of the CIF into the curriculum. They did not perceive it particularly useful or easy to use. However, they appeared to have a much better idea of what was required in their assignments despite their less than enthusiastic reception of the tool. The fact that non-native speakers of English found a slightly enhanced difficulty in using the CIF suggests that we should devote more effort to help them understand what is required. We postulate that this is therefore more of a training issue than a greater difficulty in its use.

In conclusion, it was found that the CIF could be modified for the reporting of an alternate evaluation paradigm (namely heuristic evaluation), and that minor modifications were required to the template to meet other educational aims of the course not covered by the CIF.

We remain committed to using our modified version of the CIF in our course. However, in the future more consideration will have to be given to how we introduce students to the CIF. This includes providing greater amounts of class time and additional documentation to assist in explaining its requirements. Hopefully, improvements in this aspect will also increase student perception of the usefulness and ease of use of the CIF which they will carry with them into their professional lives.

8. Acknowledgement

9. References

Nielsen, J. (1994), Enhancing the explanatory power of usability heuristics. *Proc. ACM CHI'94 Conference,* Boston, MA, April 24-28, 152-158.

NIST (1999) The IUSR Project: Industry Usability Report, White Paper, *National Institute of Standards and Technology*, http://www.itl.nist.gov/iaui/vvrg/iusr/documents/WhitePaper.html, Accessed 13/06/03.

NIST (2001) Common Industry Format for Usability Test Reports (version 1.1) *National Institute of Standards and Technology*, http://www.itl.nist.gov/iaui/vvrg/iusr/index.html Accessed 30/4/02.

Morse, Emile (2002) Usability Reporting Document proves to be useful to industry developers, *National Institute of Standards and Technology*, http://www.itl.nist.gov/iad/highlights/2002/CIF.html, Accessed 13/6/03.

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