

Independent Study Course Development Costs

Clayton R. Wright

Abstract: This article discusses the actual costs for developing independent study print courses for use in learning centres or for distance delivery. It does not provide a general cost analysis model, but presents suggestions to help practitioners design their own guidelines. A resource allocation guidelines is reviewed in detail. The figures are based primarily on one instructional development department's experience within a traditional institution; however, guidelines at other post-secondary institutions are referred to. The \$10,000-325,000 cost to develop an independent study course in a traditional institution can be justified financially as well as philosophically.

The economic realities of the '80s have led many post-secondary educators to re-examine the allocation of their monetary resources. The emergence of independent study in traditional institutions has generated concerns about the cost of developing the associated learning materials. Although there is some reluctance on the part of many traditional instructors to implement independent study on a large scale, it is acknowledged that independent study satisfies a number of the individualistic needs of adult learners and distance students, while retaining the academic standards of the institution.

Because it is new to many traditional instructors and administrators, independent study has come under close scrutiny. Interestingly, the cost of developing and delivering traditional lecture courses has rarely been questioned; perhaps this is because the lecture is generally accepted as the standard method of instruction. In order to address the financial concerns regarding independent study, the Instructional Development Department (IDD), Grant MacEwan Community College (GMCC), Edmonton, Alberta, implemented a resource allocation guideline specifically for their independent study course development. This guideline was developed over the last 5 years to ensure a more equitable treatment in the handling of course development projects. Via personal communication, the GMCC IDD guideline was recently compared with cost estimates from other post-secondary Canadian institutions that produce independent distance educational material. These institu-

tions include the Northern Alberta Institute of Technology, the Open Learning Institute, Simon Fraser University, the Southern Alberta Institute of Technology, University of Guelph, University of Manitoba, and University of Waterloo.

Although most personnel at these institutions considered the IDD estimates to be reasonable, the IDD estimates do not represent the actual resource allocations at each institution queried. Variances among estimates are discussed throughout this article.

The resource allocation guideline is used solely as a means of helping IDD estimate the resources required to develop a three-credit, independent study course in a traditional institution. Course delivery costs are not included. The guideline only applies to those projects in which IDD is involved. This guideline is not used in an internal charge-back system. The guideline may not truly reflect the actual costs of course development since such factors as political decisions, lack of funding, and unmet production deadlines can seriously affect the final cost. The resource allocation guideline uses dollar costs as a measure of the resources needed. However, the number of personnel or hours devoted to course development tasks could also be reliable indicators of required resources.

One of the dangers of publishing such a resource allocation guideline is that readers may interpret it too literally, rather than use it as a tool for decision making. The duties that GMCC IDD assigns to various personnel, such as instructional designers, may differ from those assigned to designers in other institutions. The figures used to estimate costs are based on IDD's experience and the current Alberta economy, therefore, they may not be applicable to other institutions. Nevertheless, personnel at other institutions have found our estimates to be reasonable. Also, note that the allocations mentioned do not account for employee benefits, possible overtime payments to staff, the effects of employee turnover and absenteeism, or administrative costs associated with supervision or consultation. With these precautions in mind, an explanation is provided for each line of the resource allocation guideline. All costs in Table 1 (see next page) refer to the development of 200-320 pages of course material, a short student guide, and a basic instructor's guide for a three-credit, independent study course. Detailed media production costs are not quoted. The guidelines apply to courses produced to June 30, 1988. After this date, they will be revised to reflect increases in compensation, rising material costs, and inflation; allocations may rise by 2% to 5%.

Regardless of what appear to be low allocations for course development, as shown in the guidelines, IDD produces course material of respectable quality. Some of our course material can be found in four Canadian provinces. We are currently developing materials that will be used throughout Canada.

Course Writer/Developer

Depending on the type of development required, the course writer allocations vary greatly. If an independent study course already exists, revisions should cost significantly less than creating a new course. The term "new

TABLE 1
Resource Allocation Guideline for A Three-Credit, Print-Based Course

Function	IDD Allocation*	
	Range	Best Allocation
<i>Course Writer/Developer</i>		
revise existing independent study course (paid to writer or to provide instructor with 0.5 course release time)	\$ 800-1,800	\$1,230
produce a text wrap-around course (0.5-1.0 course release time)	1,000-3,500	2,500
convert existing lecture course to independent study (1.0 course release time)	2,500-4,200	3,600
develop a new course; one not previously offered (2.0 course release time)	5,000-8,400	7,200
contract for external writers for small portions of a course @ \$25.00-\$50/hr.		
<i>Course Reviewer/Consultant</i>		
verifies academic content and methodology	1,000-2,500	1,200
<i>Clerical Support</i>		
type or enter drafts and final copy; in-house @ \$350/week or external @ \$525/week	875-3,150	1,050
type or enter text wrap-around course materials	500-1,000	600
<i>Copyright Clearance</i>		
payments to copyright holders	1,000-3,000	1,500
<i>Instructional Designer</i>		
revise existing independent study course	600-950	750
produce a text wrap-around course	750-1,500	1,200
convert existing lecture course to independent study	1,050-2,100	1,600
design new course in-house @ \$750/week	1,500-3,000	2,250
external contract for design work @ \$875-1,250/ week		

(Continued on next page)

TABLE 1 (cont'd.)

Editor

edit course, including review of one draft and final copy, and proofread final paste-up	560-1,700	1,300
rates for small portions of a course:		
proofreading @ \$16/hour		
copy editing @ \$19/hour		
substantive editing @ \$23/hour	—	—

Course Evaluation

develop and analyze student and tutor questionnaires	0-1,500	800
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Media Support

materials for standard print course; no original art work; preparation of tables, symbols, and so on	125-1,000	350
labour for page formatting and basic graphics @ \$500/week or \$3/paste-up for electronically formatted page	600-1,500	1,000
duplicating course materials @ \$0.03-0.05/page		
shrink wrapping @ \$0.35-0.60/package	—	—
CML question development @ \$8-15/item		
video production @ \$100-\$1,500/7 finished minute		
production of most non-print materials	cannot be estimated —	requires detailed project information

Travel Expenses

expenses involved in researching, assembling course teams, preparing case studies, and so on	cannot be estimated —	varies with project design
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"Note: This suggested guideline is valid to June, 1988. Actual allocations will vary with the complexity of the project and the experience of the individuals involved. Employee benefits are not included in this schedule nor are administrative overheads, rent, or utilities.

course" refers to a course not previously taught at the institution. Developing a completely new course, when lecture notes, handouts, or guidelines are unavailable, is a time-consuming task.

Before a new course is written, an extensive front-end analysis should be conducted. This includes determining the educational gap to be filled (needs analysis), preparing a detailed description of the potential audience, including entry-level skills, and outlining a competency profile of the course or program graduates. Although the allocation for developing a new course ranges from \$4,000-\$8,400 and varies depending on the faculty compensation agreement, you can expect to pay a course writer approximately \$7,200, or the equivalent of a two-course release time for an instructor. This sum may not be paid to the instructor who is acting as a course writer, but rather to the instructor's classroom replacement. However, we prefer to pay an instructor directly upon the satisfactory completion of specified work outlined in a written contract. This is the same procedure used by book publishers. If the course writer does not conduct a front-end analysis, the time needed to write a new course may be reduced by 20%-25%. This situation arises when instructors in the program are clearly aware of the educational gaps that need to be filled, or when the front-end analysis has been completed for an entire program by an institution's service department, such as IDD or the office that performs research, development, and evaluation.

Some traditional institutions, such as the University of Manitoba, may develop courses that are already offered on campus. Consequently, the existing lecture notes and handouts can be used in the preparation of an independent study version of the course.

In a wrap-around course, a textbook provides the bulk of the learning material. The course writer indicates which sections of the text students must refer to, and provides instructional objectives, additional explanations, and learning activities. The time involved in preparing wrap-around courses can be deceiving, since the writer must carefully read every word in the textbook and identify errors, omissions, and statements that may be inconsistent with the institution's philosophy. In addition, if the textbook is published in a foreign country, writers must generate Canadian examples and exercises to supplement the ones in the text. Although wrap-around course writers can receive as little as \$1,000 per course, a \$1,800-\$3,000 fee is appropriate.

First-time writers of an independent study course may take a long time to complete their first draft; consequently they may request more money for their assignment than more experienced writers who take less time to write a course. Lack of experience should not be rewarded with additional compensation. This latter point cannot be stressed enough. First-time project managers frequently respond to the emotional pleas of inexperienced, independent course writers who demand additional monies to compensate for their lack of skills. Also, note that good classroom instructors do not necessarily write good independent study material. The first-time writer should be provided with extensive support from colleagues and service departments such

as IDD. If writers do not have a regular block of time to work on course development, or if they are easily distracted by daily operating concerns, the course development time can be extremely lengthy. This may result in a demand for extra funds to complete the course due to the perceived length of time it took them to complete it. Finally, whatever sum is offered for course development, it may never be enough to satisfy some writers. An administrator must carefully weigh each situation, assign a fair allocation to the assignment-at-hand, prepare a mutually agreeable contract for a fixed sum, and then stick to the agreement.

Course Reviewer/Consultant

Course reviewers are hired to perform an academic check of the course writer's work. They should verify that the course is accurate, current, and meets the needs of the learners. Reviewers should complete each student exercise and ensure that the directions and explanations to the student, the student guide, and the instructor's guide are appropriate. At traditional institutions, the course reviewer may be a dean, program head, colleague, or an advisory committee. Normally, these individuals or groups are not paid. They perform course review work as part of their professional duties. Advisory committee members may be paid an honorarium, however. If a new course or program is being developed without in-house expertise, traditional institutions may pay a course reviewer. In this case, \$1,000-\$1,400 may be an appropriate allocation.

In dedicated, open learning institutions that employ no academic staff, a course reviewer, hired from a reputable institution, performs the crucial verification step. At these institutions, reviewers may be paid \$2,500-\$3,000 in recognition of their expertise in performing a comprehensive review of the course materials.

Clerical / Word Processor Operator Support

Although more writers are word processing their own text, clerical support is still a vital component of course development. Irrespective of the software or hardware used, a word processor operator converts text from one system to another, makes revisions, and prepares drafts and final copies. Inexperienced independent study course writers generally produce several drafts. Consequently, the word processor operator may take 5-7 weeks to complete the work. If revisions are minimal, 3-4 weeks are usually sufficient.

Costs for clerical support vary depending on their source. You can pay substantially less for the same service, on an in-house basis, than if you contract an external agency. For example, IDD pays Edmonton agencies about \$15 per hour for a typist or data entry operator. The agencies receive 30%-50% of the hourly charge, however. Consequently, the employee receives \$7.50-\$10.00 per hour, or \$263-\$350 for a 35-hour week. If an in-house typist receives \$350 per week, 3-4 weeks work would cost \$1,050-\$1,400, whereas an agency typist would cost \$1,575-\$2,100. IDD usually allocates \$1,050 for clerical support.

Copyright Clearance

This budget item is receiving more attention as the number of copyright infringement disputes increase. Every institution contacted is, or intends to allocate, sums for obtaining copyright clearances. A few institutions avoid budgeting for copyright; they maintain that copyright is the course writer's responsibility. However, institutions may be liable for copying and distributing works which contain material that has not received appropriate copyright clearances.

If an institution pays a writer or a team of writers to develop a course, usually the institution holds the copyright of the course. Therefore, the institution must ensure that copyright clearances have been obtained. IDD budgets \$1,500 per course for copyright clearance. However, about 35% of the courses do not need this allocation. Based on discussions with other institutions, \$2,000-\$2,500 might be more accurate, especially in English and health science courses.

Instructional Design

Since instructional designers assume various roles in different institutions, it is difficult to calculate an allocation that is generally acceptable. At some institutions, the designers are considered to be the project managers and handle about five courses a year. In GMCC IDD projects, the course writer or program head assumes the role of project manager. Thus, the academic department retains overall control — a characteristic of traditional institutions. In addition, IDD cannot afford to assign only five, three-credit courses to each instructional designer. The GMCC IDD instructional designers often assist the project managers and nurture their project managerial skills, but the designers are not the legitimate project managers.

Several institutions employ instructional designers as editors. While IDD asks designers to do basic copy editing and proofreading, the duties of instructional designers and editors are separate. Most of the substantive editing is left to professional editors for several reasons. First, since instructional designers are expected to handle more than five projects, time for them to do a thorough, substantive edit is inadequate. Second, editors provide a dispassionate view of the material. They have no ownership attached to the original material, as do the designer and the course writer who have worked closely with the material from idea to inception. In this situation, editors tend to see only what is there, not what is supposed to be there. Although IDD designers are expected to have training and experience as instructors, learning theorists, media experts, and instructional designers, they may not have the skills of a professional writer or editor.

IDD allocates about \$2,250 for an instructional designer to work on a new three-credit course. IDD fully realizes that this allocation should be higher, especially if designers are working with faculty who are unfamiliar with the development of independent study courses. This allocation does not include the time spent coordinating a large project or setting up a system to manage an

independent study program. If the instructional designer allocation was increased, concerns about the cost of course production would be raised and fewer, high-quality independent study courses would be developed with IDD's expertise. (Many traditional instructors resist the instructional designer's help until they have worked with a designer for a period of time.)

Two other aspects of IDD's instructional designer allocations must be mentioned. First, although it is encouraged, IDD designers are not required to teach in an academic department or to conduct research. Consequently, all their energies are focussed on their instructional design projects. If those institutions who calculate their instructional design costs at \$7,000-\$12,000 per course, subtracted the sum associated with these extra duties, and divided by the number of courses actually completed, their design costs per course may be significantly less. Generally, in-house designer costs for large projects are 30%-45% of the writer's fee, providing the writer has some experience in writing independent study courses or in dealing with distance students. Secondly, IDD designers are currently regarded as non-academic staff and do not receive the equivalent salary benefits of academic staff.

Editor

Depending on the project's requirements and their experience, IDD editors are generally paid from \$16-\$25 per hour. Usually, it takes 2-3 weeks to edit as well as proofread the drafts and the final copy of the course. The amount allocated to editing primarily depends on the experience of the course writer. If a course writer is new to independent study or lacks suitable writing skills, the editor will play a vital role in shaping the material. Since this shaping takes time and requires an experienced editor, the allocation for editing will increase.

Course Evaluation

Course evaluation usually consists of monitoring the assignments and tests from the first cohort of students, analyzing student questionnaire responses, and obtaining the "gut" reactions of the course development team. Generally, if a professional team is assembled to create a course, the final product should require only minor alterations. Major course revisions normally occur every 3-5 years.

Unless innovative delivery strategies or technologies are used, or an external agency makes a request, an elaborate scheme is not generally used at the college to evaluate new course material. The average cost of course evaluation is usually \$500-!\$,500 or 1-2 weeks work. It may only require the collection and organization of questionnaire data collected via IDD's standardized formative and summative evaluation sheets. Occasionally, on-site interviews with students and instructors are conducted. If an entire program is being converted to independent study, an extensive formative evaluation activity may be planned. This latter activity may cost several thousand dollars depending on how many students are involved and whether one-on-one interviews are to be conducted throughout the province.

Media Support

Estimating media production costs is a fine art, especially if the content, study skill level (cognitive, psychomotor, or affective), and course delivery strategies are unknown. Consequently, media production costs will not be quoted; they might be best discussed in a follow-up article.

Increasingly, the GMCC Media Services Department has become involved in producing print material for independent study courses. Labour and material costs for a standard three-credit course, as indicated in Table 1, are surprisingly low. Due to the inclusion of many graphics in health sciences and technical courses, graphic costs may be substantially higher than indicated in Table 1. Note that graphic artists may charge between \$12-\$50 per hour. Over time, as the sophistication required for producing quality print materials increases, media production costs will rise. This hypothesis is based on information received from other Canadian institutions. One institution estimates that it costs \$15-\$20 to produce a finished page of course material.

Most traditional institutions simply word process and duplicate course materials, while dedicated distance institutions tend to typeset and offset print their courses. The latter production methods are more costly, but they usually result in a very attractive package. Increasingly, desktop publishing and electronic typesetting equipment is being used to produce course materials.

Some Observations

Based on the information in this article, each print-based independent study course may cost between \$10,000-\$25,000 in a traditional institution; occasionally, a few cost as little as \$7,000 each. The general range of costs would be substantially higher if courses are supported with high-end technologies such as CML/CAI or video productions. For example, Susan Bell-Rempel at the Northern Alberta Institute of Technology recently reported that it costs an average of \$9 per item to develop higher level cognitive test questions. According to Peter Von Stein at the Southern Alberta Institute of Technology, the cost to develop application and problem-solving questions in health sciences may be as high as \$15 per item; a few items may cost as much as \$30 to develop. Based on the IDD experience, this average item cost would cover item writing, editing, data entry, item reviewing by two reviewers, and alpha testing. At least 800-1,000 CML questions should be created for a three-credit course; therefore, a minimum of \$7,200-\$10,000 must be allocated for CML question development. Video productions cost \$100-\$1,500 per finished minute, and videodisc production costs may be substantially higher. Conversely, course development costs are lowered when inexpensive technologies such as audiocassettes are used, and when experienced independent study course writers, who word process their own text, are employed. The University of Guelph successfully minimizes media costs by employing audiocassettes and microfiche in their independent study courses. Dedicated open learning institutions tend to have substantially higher development costs than those

outlined in this article. They may employ large course development teams, hire well-known course writers to prepare courses, produce multi-coloured, typeset print materials, and incorporate sophisticated technologies in their course materials.

As previously mentioned, course allocations vary from project to project and from locale to locale. They also vary with the type of client. IDD in-house rates can be 20%-75% below the rates charged by professional agencies who contract with business and industry for the same type of course development work. For example, the Freelance Editors' Association of Canada suggests a rate of \$18-\$30 per hour for copy editing in the Toronto area, while IDD generally pays \$19 per hour for the same work. If IDD accepts an external contract, these clients may be charged more than quoted in Table 1. This difference is used to cover the cost of external contract personnel, the actual cost of instructional designer assistance, and the overhead charges, such as administration fees, long distance telephone calls, and so forth.

Are the course development costs outlined in this article reasonable? Can educational institutions justify these expenses in times of financial restraint? These are difficult questions to answer. Institutions must examine the comparable figures for developing their lecture-or computer-based instruction courses and weigh the merits of independent study course development. In addition, it is important to remember that an institution's current political climate will also affect the cost of initiating any educational activity.

From a financial point of view, developing independent courses can be justified only if there is a large student population for the course, and/or the course materials have a shelf life of 4-7 years. Unfortunately, courses in such areas as health sciences not only need constant updating but also major revisions about every three years. Irrespective of the student population, the course development costs are the same. Nevertheless, if the potential student population is large, more funds can be budgeted for course development. Collaborating with other programs or institutions minimizes the financial burden on a specific program or institution. Cooperative projects not only reduce individual institutional costs, but also help to solve the problem of inter-institutional transfer of credit and territorial competitiveness.

Philosophically, there is justification for spending money on course development if an independent study format permits educational access to students who could not otherwise attend a traditional class, addresses the various learning styles of students, shortens training time, and/or increases faculty awareness of individual student needs.

Conclusion

Over the next year, IDD course development costs will continue to be monitored and the resource allocation guideline appropriately altered. Two software packages, Timelines and the Harvard Total Project, will be used for this activity. Both provide the means to manage tasks, timelines, and costs.

If you are interested in a theoretical or mathematical model for determin-

ing course development and distance delivery costs, refer to the references listed below.

REFERENCES

- Dodds, T. (1983). *Administration of distance-teaching institutions: A manual*. Cambridge, England: International Extension College.
- Head, G.E. (1985). *Training cost analysis: A practical guide*. Washington: Marlin Press.
- Perraton, H. (1982). *The cost of distance education*. Cambridge, England: International Extension College.
- Rumble, G. (1986). *Costing distance education*. England: Commonwealth Secretariat.
- Rumble, G. (1987). Why distance education can be cheaper than conventional education. *Distance Education*, 8(1), 72-94.

AUTHOR

Clayton R. Wright is the Coordinator of Instructional Development for Grant MacEwan Community College, P.O. Box 1796, Edmonton, AB T5J 2P2.