

**Instrumental Resources for Anthropological  
Research**

Code: 101261  
ECTS Credits: 6

Degree	Type	Year	Semester
2500256 Social and Cultural Anthropology	OB	3	2

The proposed teaching and assessment methodology that appear in the guide may be subject to changes as a result of the restrictions to face-to-face class attendance imposed by the health authorities.

## Contact

Name: Miranda Jessica Lubbers  
Email: MirandaJessica.Lubbers@uab.cat

## Use of Languages

Principal working language: spanish (spa)  
Some groups entirely in English: No  
Some groups entirely in Catalan: No  
Some groups entirely in Spanish: Yes

## Teachers

Beatriz Patraca Dibildox

## External teachers

A determinar

## Prerequisites

Prerequisites of the course are:

- General knowledge of anthropology.
- Computer skills at the basic user level.
- It is recommended to have participated in the course "Research Techniques in Social and Cultural Anthropology" previous to this course.

## Objectives and Contextualisation

The objectives of the course are the following:

- To acquire knowledge about the general models of collection, management, treatment, and analysis of qualitative and quantitative data needed to carry out anthropological research.
- To obtain experience in the use of the main software related to research in anthropology: literature search, bibliographic reference management, transcription, qualitative data analysis, basic descriptive statistics, cultural consensus analysis, social network analysis, etc., as well as the more common office tools.
- To design processes of collection, cleaning, management, and analysis of large amounts of data from various sources for anthropological research.



## Competences

- Producing cultural diversity materials that could have a critical impact on the common sense conceptions.
- Respecting the diversity and plurality of ideas, people and situations.
- Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
- Using the procedures, techniques and instrumental resources to the fulfilment of ethnographic fieldwork.

## Learning Outcomes

1. Ability to maintain an appropriate conversation.
2. Adopting a holistic perspective to the research problem's statement and analysing human institutions within wider cultural configurations.
3. Analysing a contemporary fact from an anthropological perspective.
4. Analysing data critically from anthropological investigations and reports.
5. Applying the current ethical codes to the ethnographic fieldwork.
6. Applying the knowledge of cultural variability and its genesis to avoid ethnocentric projections.
7. Carrying out an individual work that specifies the work plan and timing of activities.
8. Engaging in debates about historical and contemporary facts and respecting the other participants' opinions.
9. Establishing reliable ethnological relationships with subjects that encourage the production and trustworthiness of data.
10. Explaining the work's results narratively in accordance with the critical standards of discipline and bearing in mind the different target audiences.
11. Obtaining and recording ethnographic data by applying the different collection and analysis techniques, specially by using qualitative procedures and the practice of the participant observation.
12. Operationalizing theoretical concepts and testing explanations of the sociocultural phenomena.
13. Relating elements and factors involved in the development of scientific processes.
14. Selecting the appropriate techniques for each research design.
15. Solving problems autonomously.
16. Using suitable terminology when drawing up an academic text.

## Content

Theme 1. Introduction to information management

Theme 2. Tools for research ethics and intersectionality

Theme 3. Tools for the search of literature and management of bibliographical references

Theme 4. Tools for fieldwork and data analysis: Transcription of qualitative interviews; the coding and analysis of qualitative data; web surveys; the descriptive analysis of quantitative information

Theme 5. Special tools in anthropology: Cultural consensus analysis; maps and mobile methods; virtual ethnography and social media analysis; analysis of personal networks and kinship diagrams

Theme 6. Tools for the presentation of results: Preparation of texts (templates, construction of indexes and tables) and the use of images

Theme 7. Other tools and conclusion



## Methodology

In this course, we distinguish between theoretical classes and laboratory practices.

Theoretical classes.

In the theoretical classes, the lecturer will give an introduction to the topic, with examples and discussions with the participants. In these classes, readings will be recommended according to the interests of the participants, and slides and internet connections will be used when appropriate. In the Campus Virtual, summaries of the themes will be posted according to the dynamics of the classes, as well as links to complementary readings, resources, and software. During some of the theoretical classes, classroom exercises may be developed according to the dynamics of the classes. In these exercises, a small activity will be proposed in pairs or in small groups related to the discussed topics. This activity will be collected at the end of the class and will be part of the continuous evaluation (participation).

Laboratory practice.

During these sessions, the students will perform an exercise with the software related to the theme of the class (individually, in pairs, or small groups, as indicated by the lecturer), guided by the lecturer and by an instruction sheet that allows students to perform the exercise independently at their own pace; the lecturer will explain the instructions to the group and answer individual and group questions. The participants will narratively present the results of these activities in reports (in Catalan, Spanish or English, according to the student's preference), which need to be uploaded on the Campus Virtual maximally one week after the laboratory session.

The dates and topics of the theoretical classes and the laboratory practices will be presented in the course calendar, established on the first day of class. The lecturers will try to respect, as far as possible, the established dates, but the students must take into account that the calendar can undergo minor modifications (for instance, due to strikes or illness). Any change will be notified through the Campus Virtual. It is the student's responsibility to stay informed of possible changes.

The teaching methodology and the evaluation proposed in the guide may undergo some modification subject to the onsite teaching restrictions imposed by health authorities.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Laboratory practices	33	1.32	4, 7, 10, 11, 12, 8, 14
Theoretical classes	17	0.68	3, 6, 5, 2, 16, 1, 8, 13
Type: Supervised			
Submission of assignments	38	1.52	7, 11, 14
Type: Autonomous			
Readings and internet research	50	2	2, 9, 10, 11, 12, 15, 14

## Assessment



The evaluation of the course is understood as a continuous process, which evolves during the semester and will be based on the following two types of activities:

#### 1. Participation (20%)

- Attendance to class and active participation in the theoretical classes, discussions, and classroom practices (qualified with 0 or 1 for each class, the average of all classes is reconverted to a 0-2 scale to obtain 20% of the final grade). This partial evaluative activity is not recoverable at a date or a time after the established one.

#### 2. Quality of laboratory assignments (12 assignments, each assignment makes up 6,67% of the final grade)

- Throughout the course, there will be 14 laboratory sessions. During these sessions, the students will carry out an assignment with the software related to the topic of the class (individually, in pairs, or small groups, as indicated by the teacher). The participants will present the results of these activities narratively in reports.
- Students are asked to submit the reports of 12 of these assignments in Catalan, Spanish, or English (according to their own preference), individually, in pairs, or groups, depending on the work mode during the sessions. This report must be uploaded to the Campus Virtual (<https://cv.uab.cat>) within a week of the laboratory session through the "Submission" option of the Campus Virtual.
- The NIUs, surnames, and names of the students must be included in the document, and the report must have a PDF format (or sometimes the format of the program used).
- The grading of each report will range from 0 to 3. The grades will be posted approximately within one week after the deadline of submission.
- For the set of assignments, the average of the 12 grades will be converted to a 0-8 scale to obtain 80% of the final grade.
- In the reevaluation period, students can catch up on missed qualifications for assignments that have not been submitted or approved, if the student has submitted (but not necessarily approved) at least 2/3 of the assignments.

#### Re-evaluation

- At the end of the course, a recovery session will be organized in which students can recover laboratory assignments that they had not submitted before, for justified reasons (with official justification), as well as of assignments that they have submitted but that were suspended. Non-submission is justifiable for the following reasons: work, family, illness. To participate in this reevaluation session, the student must have been previously evaluated [this does not mean approved] in a set of activities of which the weight equals a minimum of 2/3 of the total score (Students who have long-term health problems or other unforeseen problems that prevent them from regularly delivering the practices should talk to the lecturer, presenting a justification, to find a solution).
- The re-evaluation will consist of redoing the suspended assignments (based on different instructions or materials).

The final grade will be communicated through Sigma, and a grade review session will be scheduled.

General criteria: Following the evaluation regulations of studies at the UAB, the final qualification will be graded at a 0-10 scale with a single decimal. To pass the course, students will need a minimum final grade of 5.0, as a result of the assessment procedure explained above. Students will receive the qualification "*Not evaluable*" if they have submitted less than 30% of the assessment items. Students who engage in misconduct (plagiarism, copying, personation, etc.) in an assessment activity will receive the grade "0" for the activity in question. In the case of misconduct in more than one assessment activity, the students involved will be given a final mark of "0" for the subject. Students may not retake assessment activities in which they are found to have engaged in misconduct. Plagiarism means presenting all or part of an author's work, whether published in print or in digital format, as one's own, i.e., without citing it. Copying is reproducing all or a part of another student's work. In cases of copying in which it is impossible to determine which of two students has copied the work of the other, both will be penalized. Please see the documentation of the UAB about plagiarism on: [http://wuster.uab.es/web\\_argumenta\\_obert/unit\\_20/sot\\_2\\_01.html](http://wuster.uab.es/web_argumenta_obert/unit_20/sot_2_01.html).



Evaluation in case face-to-face evaluation is not possible: If laboratory assignments cannot be performed onsite, they will be adapted to an online format made available through the UAB's virtual tools (original weighting will be maintained, although the number of laboratory practices may be reduced to 12 in that case). Homework, activities, and class participation will be carried out through forums, wikis, and/or discussions on Teams, etc. Lecturers will ensure that students are able to access these virtual tools or will offer them feasible alternatives.

## Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Participation	20%	2	0.08	3, 15, 14
Submission of assignments 01-03 (6,67% each)	20%	2.5	0.1	4, 6, 5, 2, 7, 9, 10, 16, 1, 11, 12, 8, 13, 15, 14
Submission of assignments 04-06 (6,67% each)	20%	2.5	0.1	4, 6, 5, 2, 7, 9, 10, 16, 1, 11, 12, 8, 13, 15, 14
Submission of assignments 07-09 (6,67% each)	20%	2.5	0.1	4, 6, 5, 2, 7, 9, 10, 16, 1, 11, 12, 8, 13, 15, 14
Submission of assignments 09-12 (6,67% each)	20%	2.5	0.1	4, 6, 5, 2, 7, 9, 10, 16, 1, 11, 12, 8, 13, 15, 14

## Bibliography

Recommended literature:

*Book:* Paulus, Trena M, Lester, Jessica N., & Dempster, Paul G. (2014). *Digital Tools for Qualitative Research*. London: Sage. (You can find it in the library of Social Sciences - Floor 0: [https://cataleg.uab.cat/iii/encore/record/C\\_\\_Rb1905927](https://cataleg.uab.cat/iii/encore/record/C__Rb1905927))

*Website:* The accompanying website of the course "Recursos Instrumentals per a la Recerca en Antropologia": <https://pagines.uab.cat/recursosantropologia/ca>

Complementary literature (per theme):

1. Introduction:

Pelckmans, Lotte (2009). Phoning anthropologists: The Mobile Phone's Reshaping of Anthropological Research. En: Mirjam de Bruijn, Francis Nyamnjoh, Inge Brinkman (Eds), *Mobile Phones: The New Talking Drums of Everyday Africa*. LANGAA: RCPIG. Preprint of the author: [https://www.researchgate.net/publication/287010384\\_Phonin\\_g\\_anthropologists\\_The\\_mobile\\_phone%27s\\_re](https://www.researchgate.net/publication/287010384_Phonin_g_anthropologists_The_mobile_phone%27s_re)

Lupton, Deborah (2020). *Doing Fieldwork in a Pandemic*. Crowdsourced document: <https://nwssdtpacuk.files.wordpress.com/2020/04/doing-fieldwork-in-a-pandemic2-google-docs.pdf>

*Mental maps:*

Burgess-Allen, J., & Owen-Smith, V. (2010). Using Mind Mapping Techniques for Rapid Qualitative Data Analysis in Public Participation Processes. *Health Expectations: An International Journal of Public Participation in Health Care and Health Policy*, 13(4), 406-415. <https://doi.org/10.1111/j.1369-7625.2010.00594.x>

2. Ethics and intersectionality:



## 2a. Ethics:

American Association of Anthropology (adopted in 1971, amended in 1986). *Principles of Professional Responsibility*. <http://www.americananthro.org/ParticipateAndAdvocate/Content.aspx?ItemNumber=1656>

Ethics code of the Association of Social Anthropologists of the UK (ASA): <https://www.theasa.org/downloads/ASA%20ethics%20guidelines%202011.pdf>

Open-access educational resource about ethics in anthropology (Macquarie University): <https://ethicstraining.mq.edu.au/>

Website of the Ethics Committee of the UAB (Comissió d'Ètica en l'Experimentació Animal i Humana de la UAB), with templates for informed consent forms, etc.: <https://www.uab.cat/etica-recerca/>

## 2b. Intersectionality:

Chilisa, Bagele (2020). *Indigenous Research Methodologies*. 2nd edition. Sage. UAB Library of Social Sciences: [https://cataleg.uab.cat/iii/encore/record/C\\_\\_Rb2099691](https://cataleg.uab.cat/iii/encore/record/C__Rb2099691)

Jayasinghe, Namalie, Parvez Butt, Anam, & Zaaroura, Mayssam (2019). *Integración del Género en la Planificación de las Investigaciones*. Oxfam. <https://oxfamilibrary.openrepository.com/bitstream/handle/10546/620621/gd-integrating-gender-research-pl>

Marçal, Heura, Kelso, Fiona, & Nogués, Mercè (2011). *Guia per a l'Ús No Sexista del Llenguatge a la Universitat Autònoma de Barcelona (2nd edition)*. Barcelona: Servei de Llengües i Observatori per a la Igualtat, Universitat Autònoma de Barcelona. <https://www.uab.cat/doc/llenguatge>

Zuberi, Tukufu, & Bonilla-Silva, Eduardo (2008). *White Logic, White Methods: Racism and Methodology*. Plymouth, UK: Rowman and Littlefield. UAB Library of Social Sciences: [https://cataleg.uab.cat/iii/encore/record/C\\_\\_Rb1867112](https://cataleg.uab.cat/iii/encore/record/C__Rb1867112)

## 3. Literature search and reference management:

### 3a. Literature search:

The website "Recursos Instrumentales para la Antropología", section "Buscar Literatura" [https://pagines.uab.cat/recursosantropologia/ca/buscar\\_informacion](https://pagines.uab.cat/recursosantropologia/ca/buscar_informacion)

### 3b. Reference management:

The website "Recursos Instrumentales para la Antropología", section "Gestionar referencias": [https://pagines.uab.cat/recursosantropologia/ca/gestionar\\_referencias](https://pagines.uab.cat/recursosantropologia/ca/gestionar_referencias)

Ivey, Camille, & Crum, Janet (2018). Choosing the Right Citation Management Tool: EndNote, Mendeley, RefWorks, or Zotero. *Journal of the Medical Library Association*, 106(3), 399-403. <https://doi.org/10.5195/jmla.2018.468>

## 4. Tools for fieldwork and data analysis:

### 4a. Interviews and transcription:

McLellan, Eleanor, MacQueen, Kathleen M., & Neidig, Judith L. (2003). Beyond the Qualitative Interview: Data Preparation and Transcription. *Field Methods*, 15(1), 63-86. <https://doi.org/10.1177/1525822X02239573>

### 4b. Qualitative data analysis:



Saldaña, Johny (2013). *The coding manual for qualitative researchers (Second edition)*. London. Sage Publications. Chapter 1: An Introduction to Codes and Coding: [https://www.sagepub.com/sites/default/files/upm-binaries/24614\\_01\\_Saldana\\_Ch\\_01.pdf](https://www.sagepub.com/sites/default/files/upm-binaries/24614_01_Saldana_Ch_01.pdf). Book (1st edition) at the UAB Library of Social Sciences: [https://cataleg.uab.cat/iii/encore/record/C\\_\\_Rb1765292](https://cataleg.uab.cat/iii/encore/record/C__Rb1765292)

Ryan, Gery W. & Bernard, H. Russell (2003). Techniques to Identify Themes. *Field Methods*, 15, 85-109. <https://doi.org/10.1177/1525822X02239569>

#### 4c. Web surveys:

Long, Nicholas J. (2020). Lockdown Anthropology and Online Surveys: Unprecedented Methods for Unprecedented Times. *Studies in Indian Politics*, 8(2), 294-297. Preprint of the author: [http://eprints.lse.ac.uk/106672/1/23\\_JUL\\_LONG\\_Lockdown\\_Anthropology\\_and\\_Online\\_Surveys\\_FINAL.pdf](http://eprints.lse.ac.uk/106672/1/23_JUL_LONG_Lockdown_Anthropology_and_Online_Surveys_FINAL.pdf)

*Example (of former students of the course):* Blades Cano, África, Duran Berrojo, Ada, Concustell López, Ainhoa, Pérez Caride, Rebeca, & Portilla Blanco, Flor de Maria (2020). La Solidaritat i el Voluntarisme durant la Crisi de la COVID-19. *Perifèria, Revista de Recerca i Formació en Antropologia*, 25(2), 115-129, <https://doi.org/10.5565/rev/periferia.790>

#### 4d. Quantitative data analysis (descriptive):

*Explanation:* The website "Recursos Instrumentales para la Antropología", section "Analizar datos cuantitativos": [https://pagines.uab.cat/recursosantropologia/ca/analisi\\_cuantitativo](https://pagines.uab.cat/recursosantropologia/ca/analisi_cuantitativo)

Bernard, Russell H. (2002). *Research Methods in Anthropology: Qualitative and Quantitative Approaches*. Walnut Creek, CA: Altamira Press. Chapters 19 and 20. The UAB Library of Humanities: [https://cataleg.uab.cat/iii/encore/record/C\\_\\_Rb1710448](https://cataleg.uab.cat/iii/encore/record/C__Rb1710448)

Small, Mario Luis (2011). How to Conduct a Mixed Methods Study: Recent Trends in a Rapidly Growing Literature. *Annual Review of Sociology*, 37, 57-86. <https://doi.org/10.1146/annurev.soc.012809.102657>

Excel is also often used to structure qualitative data. For example, see: Ose, Solveig O. (2016). Using Excel and Word to Structure Qualitative Data. *Journal of Applied Social Science*, 10(2), 147-162. <https://doi.org/10.1177/1936724416664948>

#### 5. Special methods in anthropology:

##### 5a. Cultural consensus analysis:

Weller, Susan C. (2007). Cultural Consensus Theory: Applications and Frequently Asked Questions. *Field Methods*, 19(4), 339-368. <https://doi.org/10.1177/1525822X07303502>

*Example:* Carothers, Courtney, Brown, Caroline, Moerlein, Katie J., López, J. Andrés, Andersen, David B. & Retherford, Brittany (2014). Measuring Perceptions of Climate Change in Northern Alaska: Pairing Ethnography with Cultural Consensus Analysis. *Ecology and Society*, 19(4), 27. <http://dx.doi.org/10.5751/ES-06913-190427>

##### 5b. Maps and mobile methods:

Martini, Natalia (2020). Using GPS and GIS to Enrich the Walk-along Method. *Field Methods*, 32(2), 180-192. <https://doi.org/10.1177/1525822X20905257>

*Example:* Carroll, Sidse, Pernille Jespersen, Astrid, & Troelsen, Jens (2020). Going along with Older People: Exploring Age-friendly Neighbourhood Design through their Lens. *Journal of Housing and the Built Environment*, 35, 555-572. <https://link.springer.com/article/10.1007/s10901-019-09700-z>

##### 5c. Virtual ethnography and social media research:



Ardèvol, Elisenda, & Lanzeni, Débora (2014). Visualidades y materialidades de lo digital: Caminos desde la antropología. *Anthropologica*, 33, 11-38. PDF: <http://www.scielo.org/pe/pdf/anthro/v32n33/a02v32n33.pdf>

*Example:* Ardèvol, Elisenda, Martorell Fernández, Sandra, & San Cornelio, Gemma (2021). El Mito en las Narrativas Visuales del Activismo Medioambiental en Instagram. *Comunicar: Revista Científica Iberoamericana de Comunicación y Educación*, 68 (29), 59-70. <https://doi.org/10.3916/C68-2021-05>

*Example, webpage:* "Algorithmic Ethnography" of Peter Forberg, <https://spark.adobe.com/page/cRH1UENjuWLAS/>

#### 5d. Personal networks and genealogy:

##### *Personal networks:*

McCarty, Christopher, Lubbers, Miranda J., Vacca, Raffaele, & Molina, José Luis (2019). *Conducting Personal Network Research: A Practical Guide*. Guilford Press. UAB Library of Social Sciences: [https://cataleg.uab.cat/iii/encore/record/C\\_\\_Rb2093827](https://cataleg.uab.cat/iii/encore/record/C__Rb2093827)

Chua, Vincent, J. Madej, Julia, & Wellman, Barry (2011). Personal Communities: The World According To Me. In John Scott & Peter J. Carrington (Eds), *The SAGE Handbook of Social Network Analysis*, pp. 101-115. London: Sage Publications. Preprint: <http://citeseerx.ist.psu.edu/viewdoc/download;jsessionid=5E9E3E8F0A959C55197FD46093063A0B?doi=10.1.1.1.1.1.1>. For the book, UAB Library of Social Sciences, [https://cataleg.uab.cat/iii/encore/record/C\\_\\_Rb1853005](https://cataleg.uab.cat/iii/encore/record/C__Rb1853005)

*Comparison with ethnography:* Ready, Elspeth, Habecker, Patrick, Abadie, Roberto, D'Avila-Torres, Carmen A., Rivera-Villegas, Angélica, Khan, Bilal, & Dombrowski, Kirk (2020). Comparing Social Network Structures Generated through Sociometric and Ethnographic Methods. *Field Methods*, 32(4), 416-432. <https://doi.org/10.1177/1525822X20945499>

*Example:* Lubbers, Miranda J., Molina, José Luis, & McCarty, Christopher (2021). How do Migrants' Processes of Social Embedding Unfold over Time? *Global Networks*, 21(3), 529-550. <http://dx.doi.org/10.1111/glob.12297>

##### *Kinship diagrams:*

The page "Tools: Program for Kinship Data Analysis" of the website "Kinsources" (ANR Kinsources - Olivier Kyburz): <https://www.kinsources.net/editorial/tools.xhtml>

#### 6. Presentation of results:

The website "Recursos Instrumentales para la Antropología", sections "Preparar un texto académico" and "Usar fotos en la diseminación": <https://pagines.uab.cat/recursosantropologia/ca>

#### 7. Other tools and conclusion:

Website "Digital Anthropology resources" by Kate Meyers Emery: <https://meyersemery.com/digital-resources/da/>

Youtube channel "Breaking Methods seminars" (hosted by the Vitalities Lab, UNSW Sydney and the Australian Research Council Centre for Automated Decision-Making Society): <https://www.youtube.com/channel/UCu1q-2O2HIHLTUEZswtXXbA/videos>

## Software

UAB students can download Microsoft Office 365 at home and/or on their laptops if they wish so: <https://si-respostes.uab.cat/inici/correu/msop-microsoft-office/msop-com-em-puc-instal-lar-l-office>



In addition, it is recommended that they install the ARE button in their website's browser to access the electronic resources mentioned in the bibliography section (articles in academic journals that are not open access) from outside the UAB - <https://www.uab.cat/web/our-services/access-to-electronic-resources-1345738248146.html>. This (Spanish-language) video explains how to do that in 3 minutes: <https://vimeo.com/516408829/9f4a1ed83d>

We will also use the reference manager Mendeley in the course, and we recommend that students install it on their computers or laptops. Through the UAB, they can access the institutional license: <https://www.uab.cat/web/study-and-research/mendeley-institutional-1345738248632.html>.

The other programs and digital resources that we will use in the course will be communicated in the first class since they are chosen based on criteria of development, quality, comprehensibility, and open access or available licenses of the programs available for each task at that time. Possibly, we will use Coggle for mind maps; various ethical resources were used for ethics; Web of Science /Scopus (<https://www.recursoscientificos.fecyt.es/>, accessible from home with the ARE button), Google Academic, Connected Papers and optionally Research Rabbit for literature search; Express Scribe for transcription; Atlas.ti for coding and analysis of qualitative data; Google Forms for web surveys, MS Excel (or Google Sheets) for descriptive analysis of quantitative data; Ucinet for consensus analysis; Instamaps for maps; Socioviz and Parsehub (according to students' preference) for internet research; Gephi or Vennmaker for social networks, Word and optionally Scrivener for the preparation of texts, and various resources for free to use images. All programs are installed or can be installed or accessed in the computer rooms.