Online-Veranstaltungsreihe

INFOPOINT HOCHSCHULLEHRE. Digitale Prüfungen

Digitales Prüfen – Konzepte, Technik, Praxis

PD Dr. Malte Persike

Hochschulforum Digitalisierung

Stiftung Innovation in der Hochschullehre

Eine Kooperation des Hochschulforums Digitalisierung und der Stiftung Innovation in der Hochschullehre

24.09.2021

Agenda

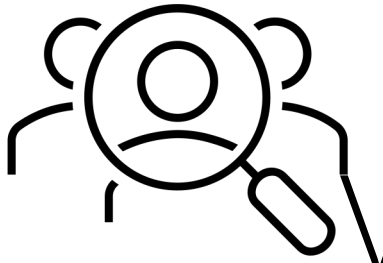
Infopoint Hochschullehre: Digitale Prüfungen

10:00 – 11:50	● Begrüßung, Einführung STiL & HFD, Vorstellungsrunde
	● Begriffsbestimmung und Ordnungsrahmen
	● E-Prüfungen
	  ○ Systeme und Infrastruktur (+ BYOD)
	  ○ Kompetenzorientierung in E-Prüfungssystemen
	  ○ Schnittstellen zu Prüfungsportfolios und Scanklausuren
	  ○ Psychometrie

11:50 – 12:10	Kurze Pause

12:10 – 13:50	● Fernprüfungen und Take-Home Prüfungen
	  ○ Varianten und empirische Evidenz
	  ○ Leit(d)thema Täuschungskontrolle
	● Offene Prüfungsformate
	● Perspektiven für Digitale Prüfungen

13:50 – 14:00	Take-Home, Abschluss



Vorstellungsrunde

„Wer bin ich?“

„Wo findet man mich?“

„Was habe ich zuletzt digital geprüft?“

Arbeitsmaterial für diesen Workshop

https://t1p.de/5f3ok

https://sli.do

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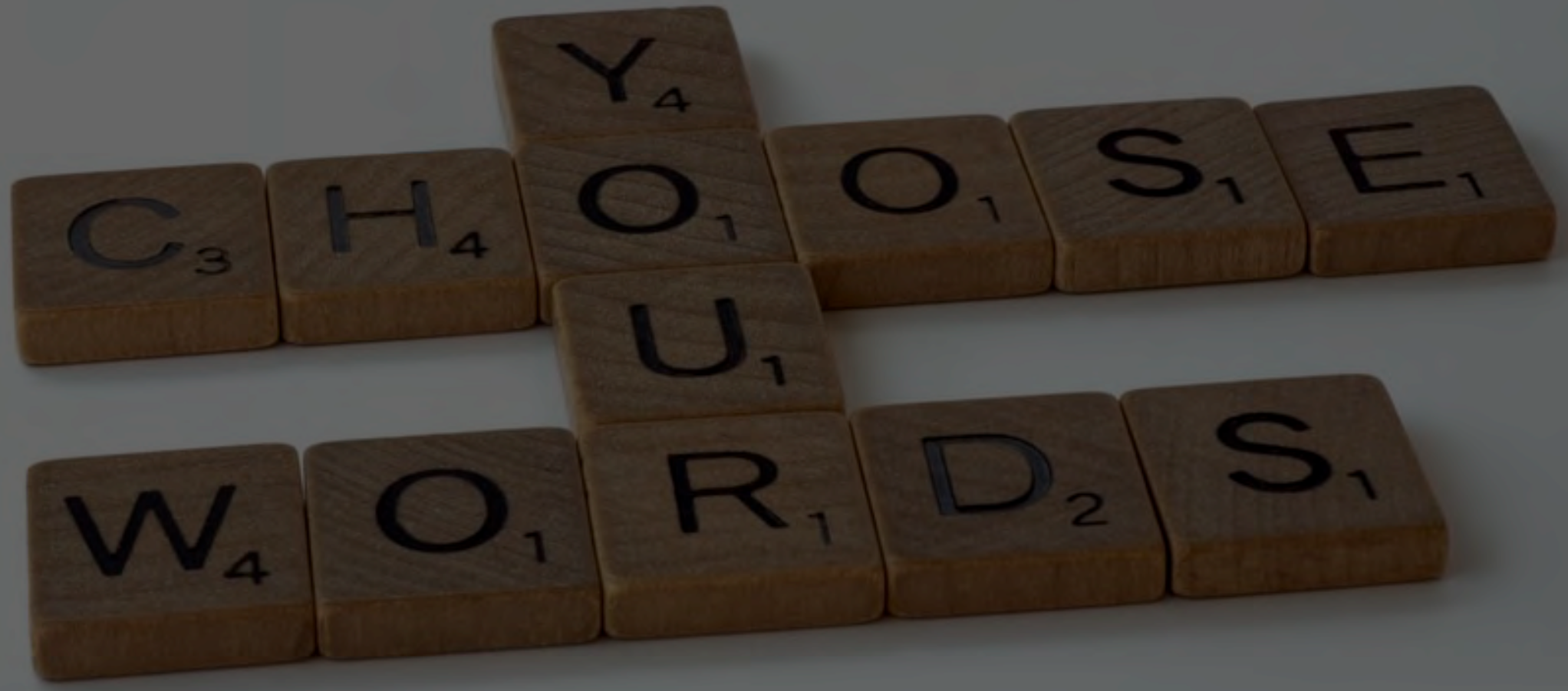
Begrifflichkeiten

im Kontext digitaler Prüfungen



Digitale Prüfungen

E-Assessments

E-Prüfungen

E-Tests und Quizzes

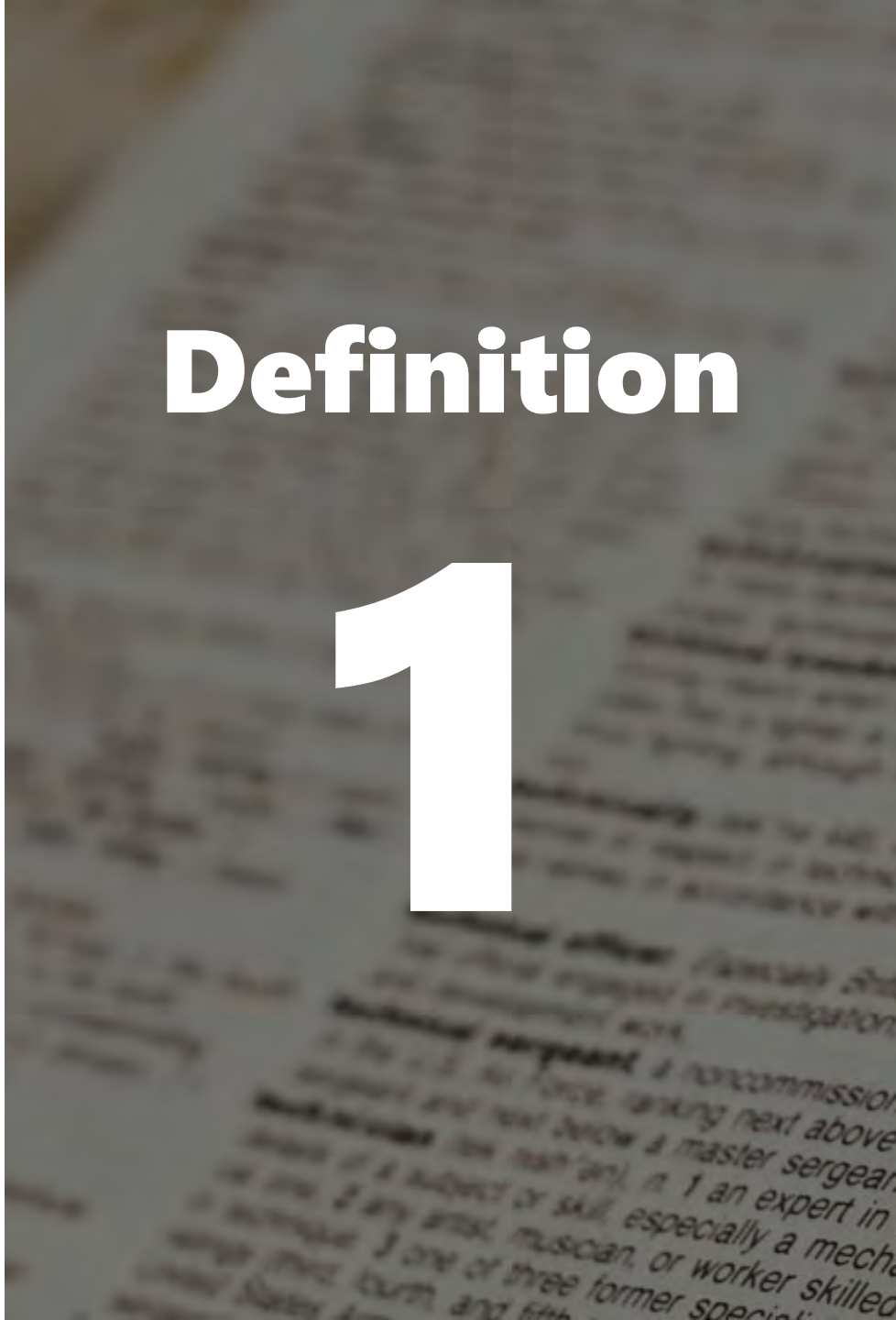
Fernprüfungen

Scanprüfungen

Hybride Prüfungen

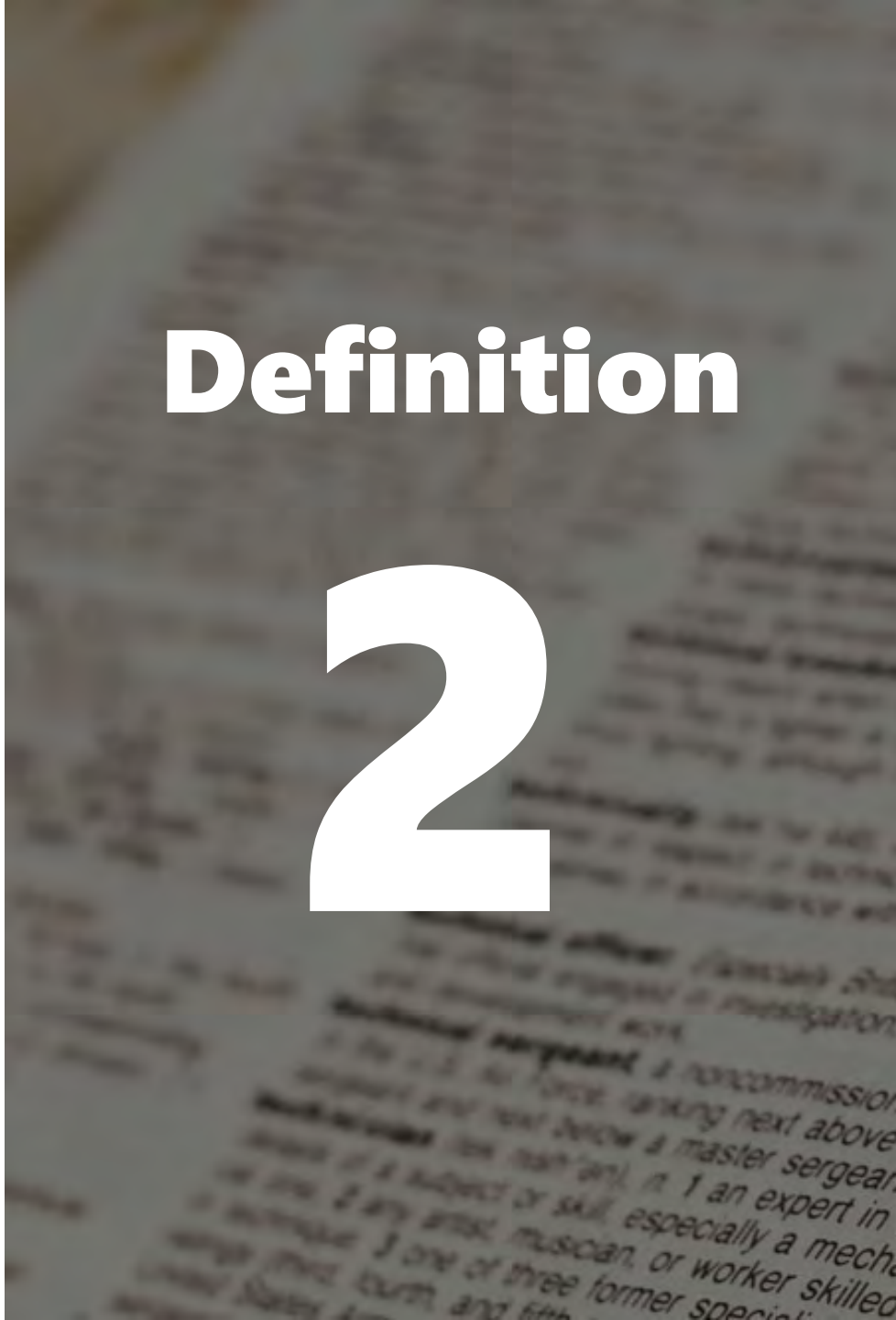
Digitale Prüfung

Jede Form der kognitiven Leistungsmessung, bei der mindestens Teile der Durchführung in digitaler Form ablaufen. Im Englischen als E-Assessment bezeichnet.



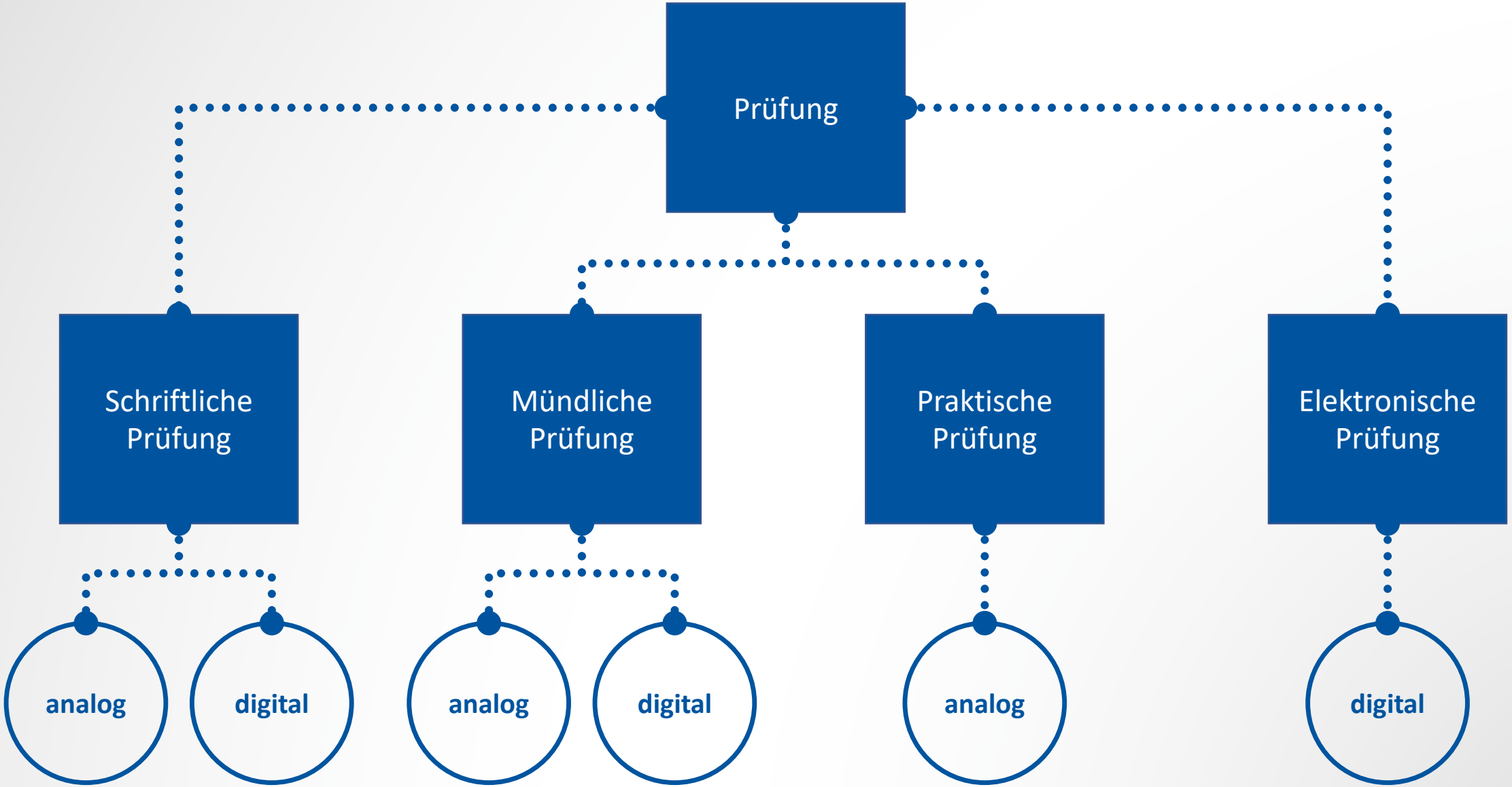
Elektronische Prüfung

Digitale Prüfung, bei der Vorbereitung, Durchführung und Korrektur im selben Softwaresystem erfolgen, meist “E-Prüfungssystem” genannt.



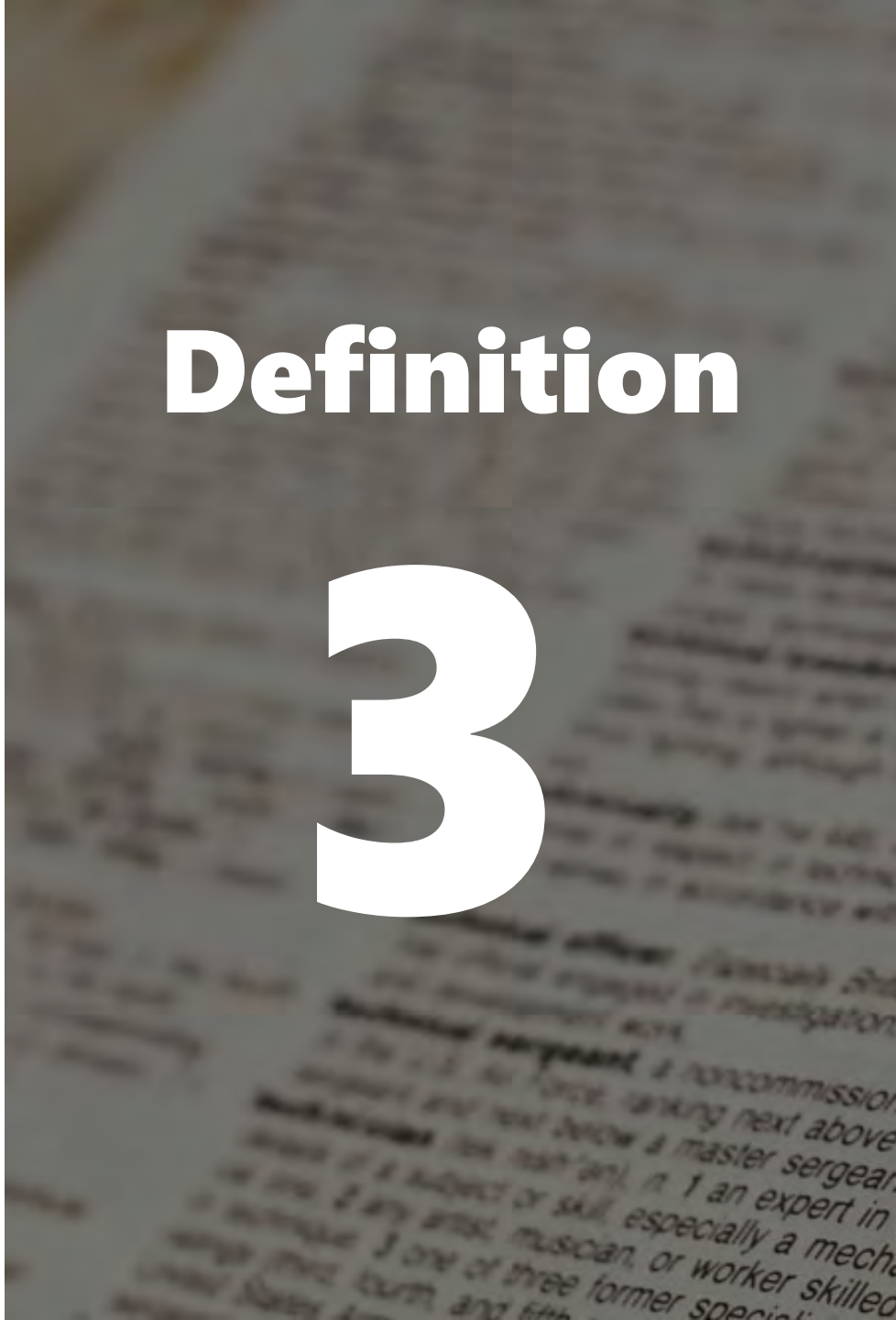
Elektronische Prüfung

Die E-Prüfung ist ein prüfungsrechtlich feststehender Begriff, dessen Auslegung der rasanten Entwicklung des digitalen Prüfens noch nicht entspricht.


Prüfung
Schriftliche Prüfung
Mündliche Prüfung
Praktische Prüfung
Elektronische Prüfung
analog
digital
analog
digital
analog
digital

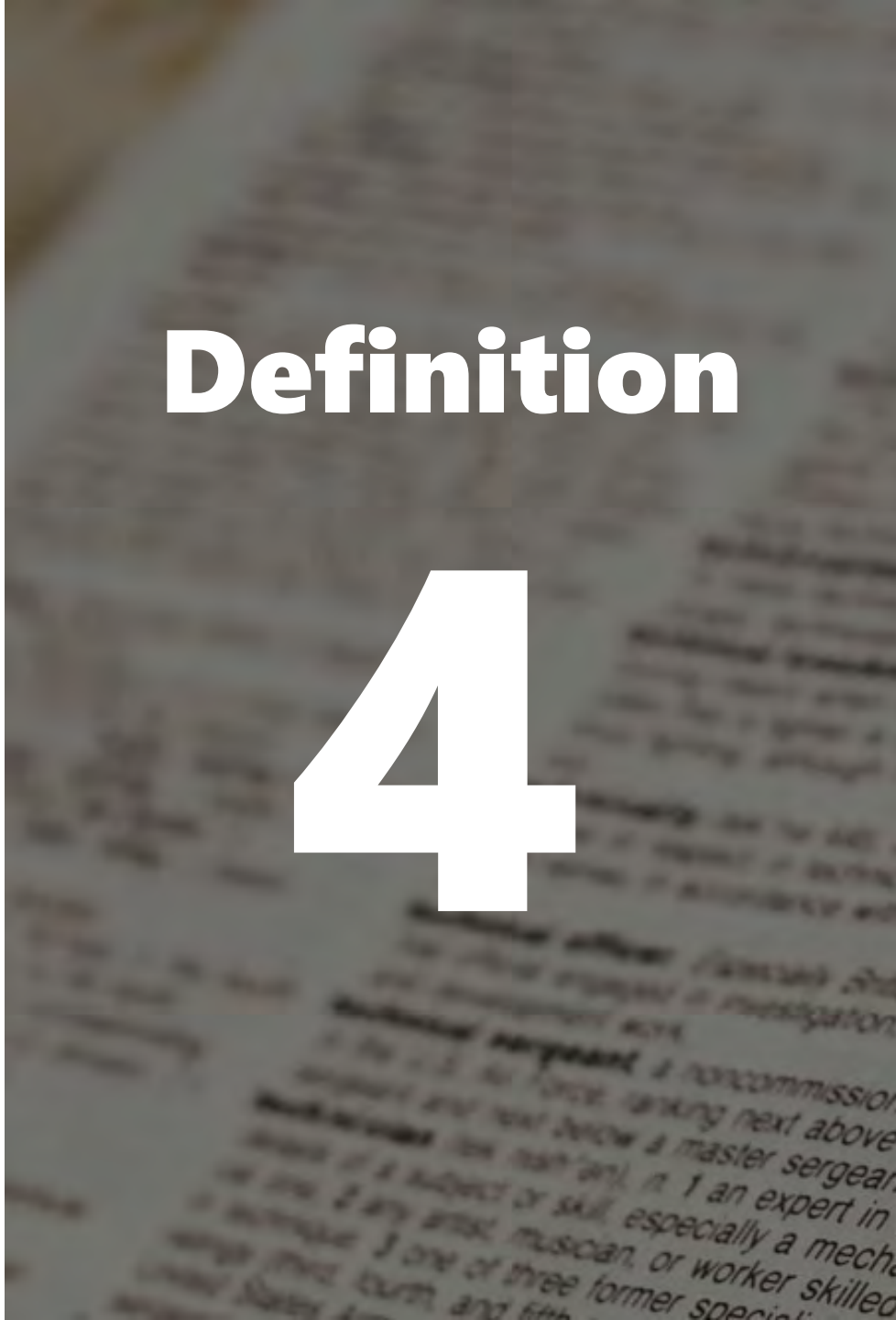
E-Test und Quiz

Formative Form der Digitalen Prüfung, die semester-begleitend stattfindet, oft unter Nutzung eine E-Prüfungssystems oder spezieller Software.



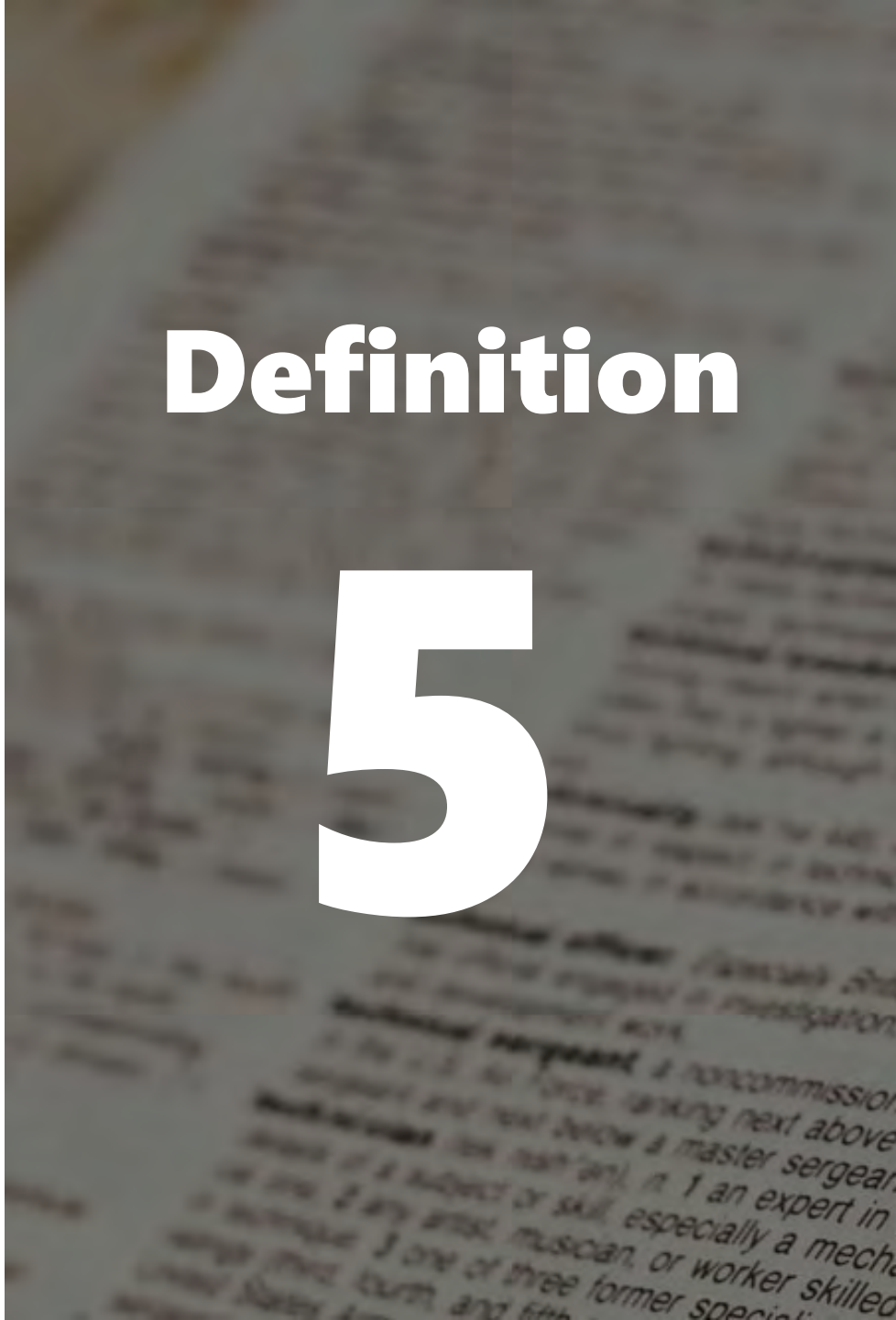
(Online-)Fernprüfung

Eine (digitale) Prüfung, deren Durchführungsort von den Geprüften beliebig gewählt werden kann. Im Englischen als Take-Home Prüfung bezeichnet.



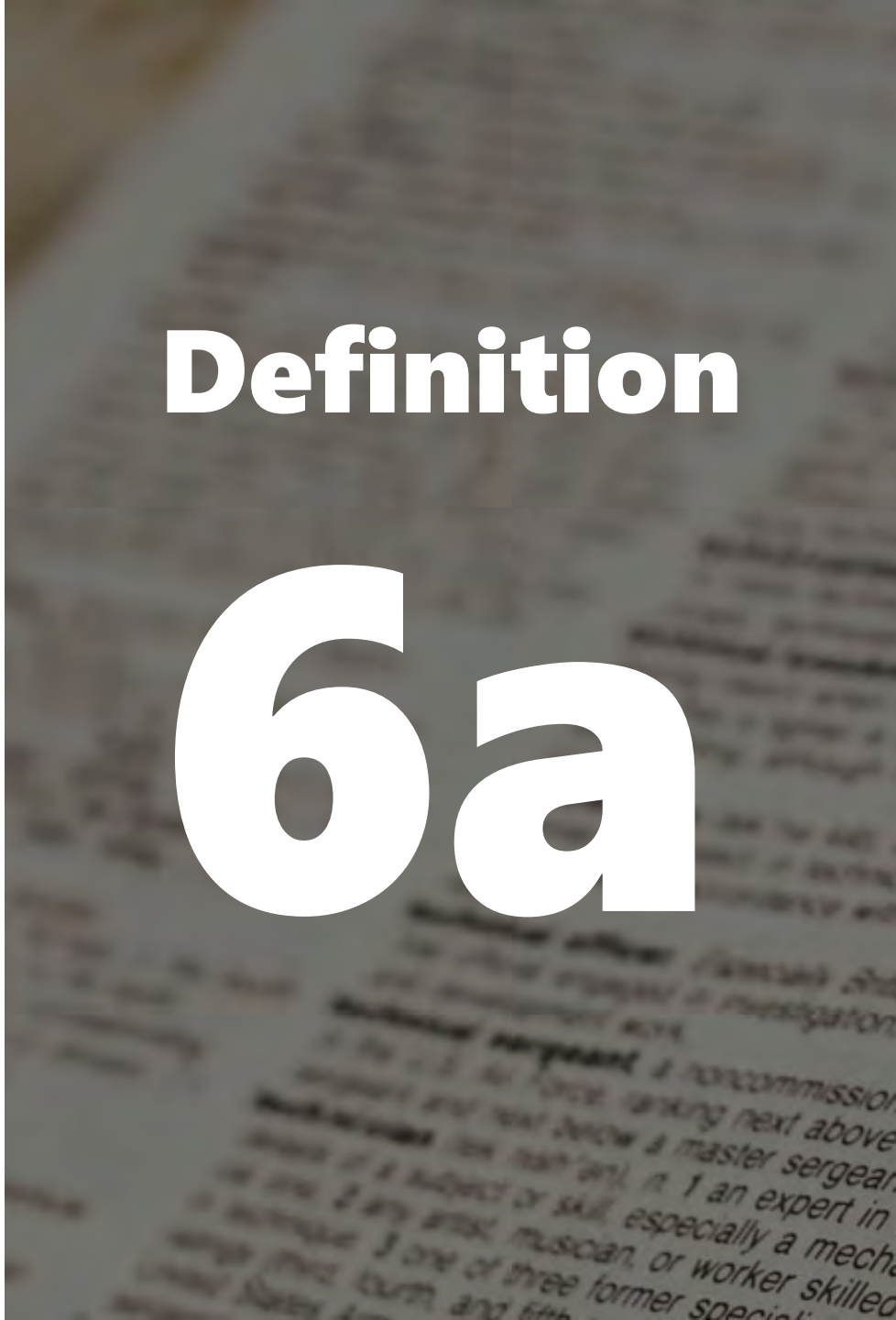
Scanprüfung

Eine Prüfung, bei der die Prüfungsmaterialien nach der Ablegung durch Einscannen digitalisiert werden, entweder durch die Studierenden selbst oder durch Servicepersonal.



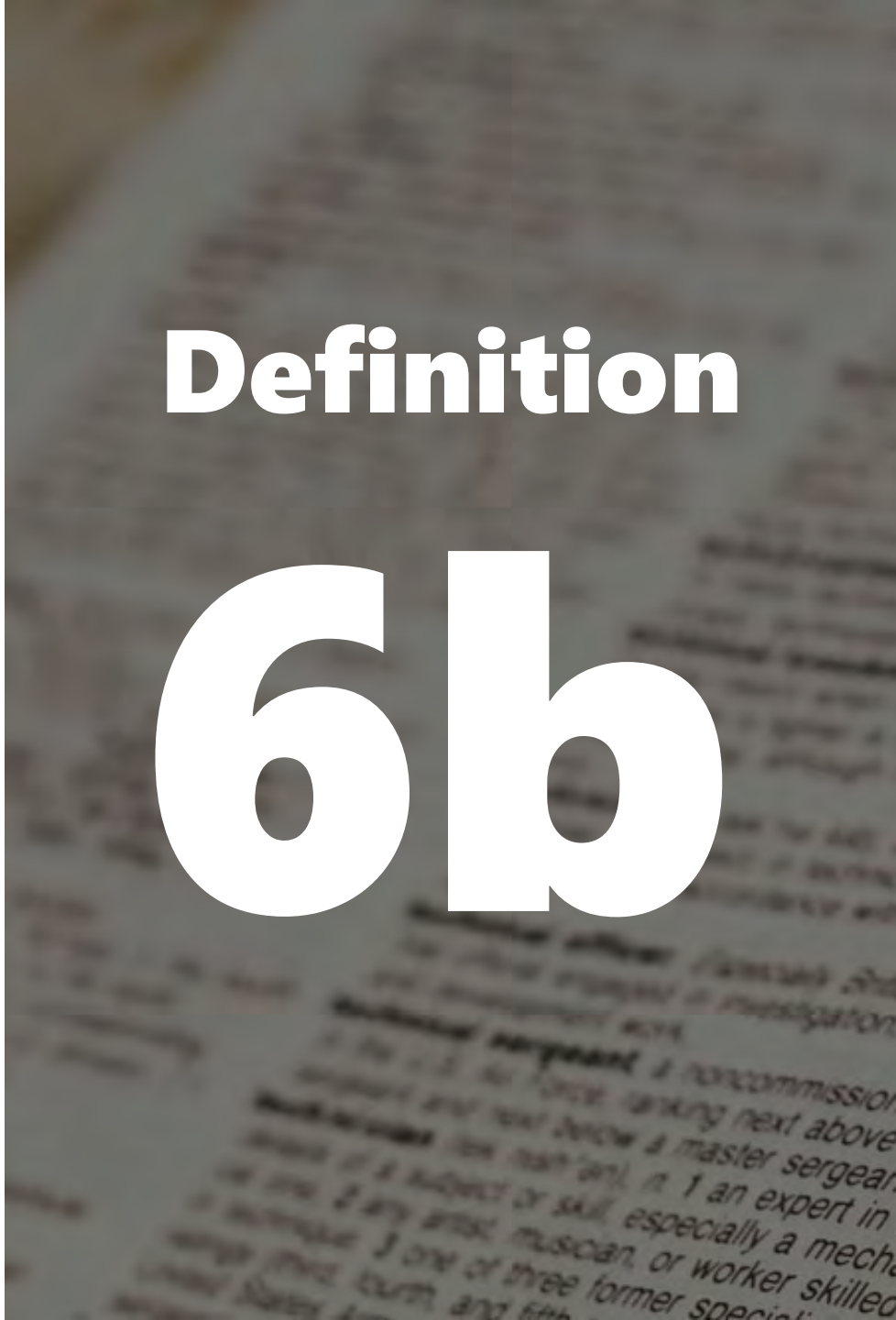
Hybride Prüfung

1. Gleichzeitiges Angebot derselben Prüfung in analoger und digitaler Form, wobei die Geprüften eine der beiden Varianten wählen.



Hybride Prüfung

2. Mischung von digitaler und analoger Bearbeitung innerhalb derselben Prüfung.



Hybride Prüfung

3. Mischung mehrerer digitaler Bearbeitungs-formen in derselben Prüfung (z.B. E-Prüfungs-System plus Drittapplikation).

Erfahrungen

mit digitalen Prüfungen

https://sli.do

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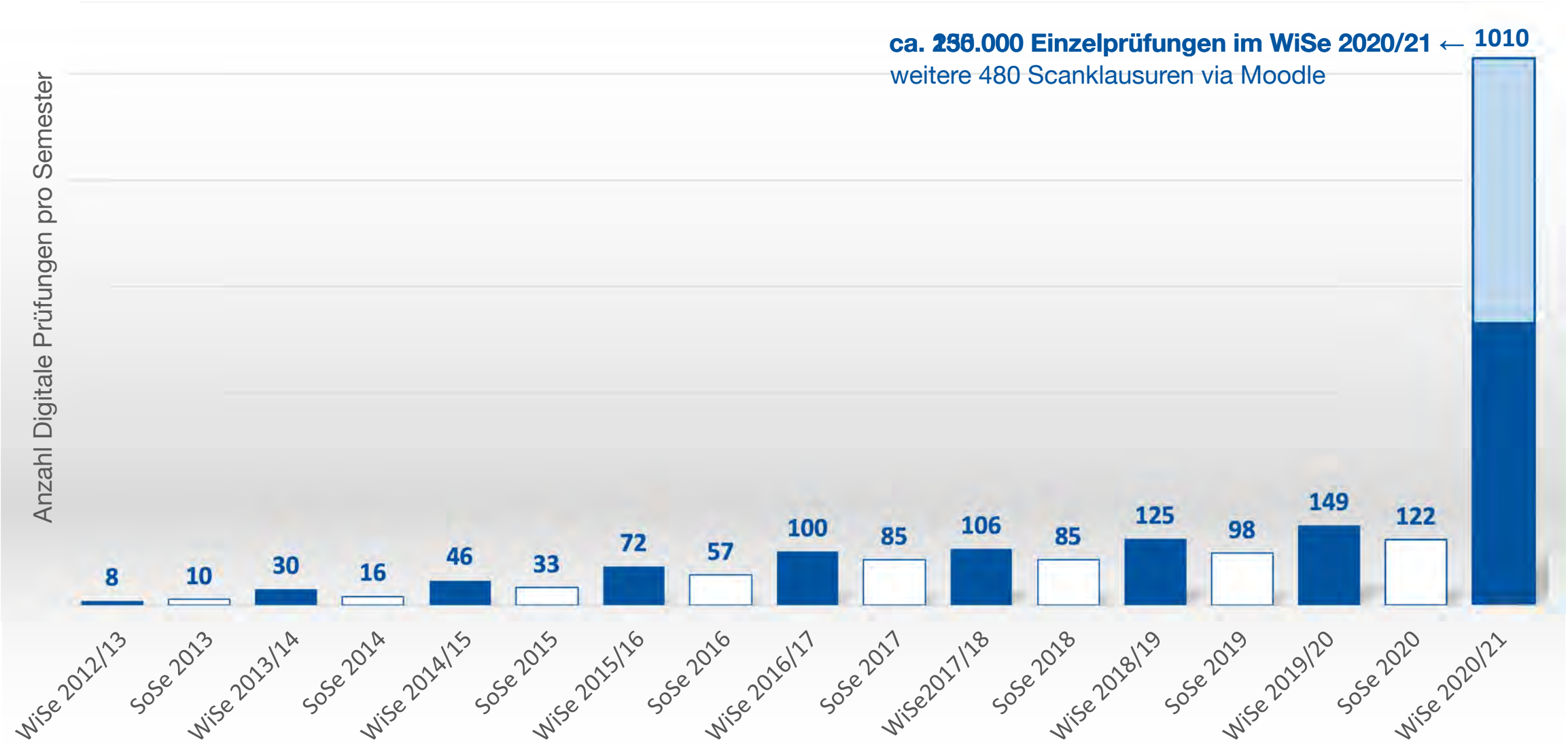
Alles anders

beim digitalen Prüfen

Digitale Prüfungen an der RWTH



E-Prüfungen in Präsenz

Einsatz von Prüfungssystemen

Rauminfrastruktur: Platzbedarf, Sichtschutz, Klimatisierung, Lichtverhältnisse

Personal: IT-Administration, Prüfungsbetreuung, Fachaufsicht, Hausmeister

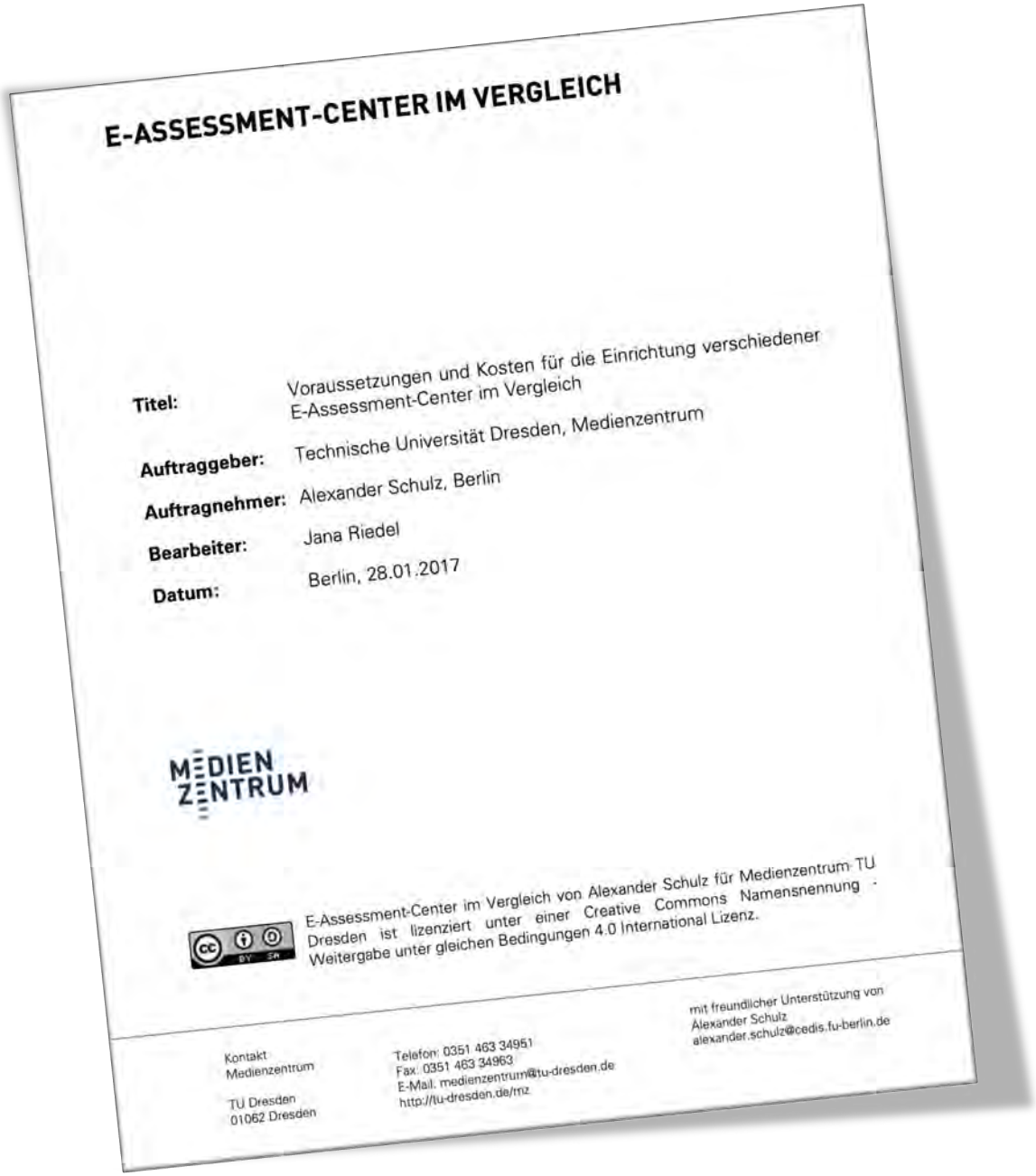
Hardware: Endgeräte, Bildschirme, Bediengeräte, Netzanschlüsse, Präsentationshardware (oder doch BYOD?)

Software: Betriebssystem, E-Prüfungssystem, Drittapplikationen, Proctoring-Software, Sicherheitsarchitektur

ca. 1,2 Mio. €
Erstinvestition für 150 Prüfungsplätze

ca. 200.000 €
Personalkosten p.a.

ca. 230.000 € für
Erneuerung alle 5 Jahre



E-ASSESSMENT-CENTER IM VERGLEICH

Titel: Voraussetzungen und Kosten für die Einrichtung verschiedener E-Assessment-Center im Vergleich

Auftraggeber: Technische Universität Dresden, Medienzentrum

Auftragnehmer: Alexander Schulz, Berlin

Bearbeiter: Jana Riedel

Datum: Berlin, 28.01.2017

MEDIEN ZENTRUM

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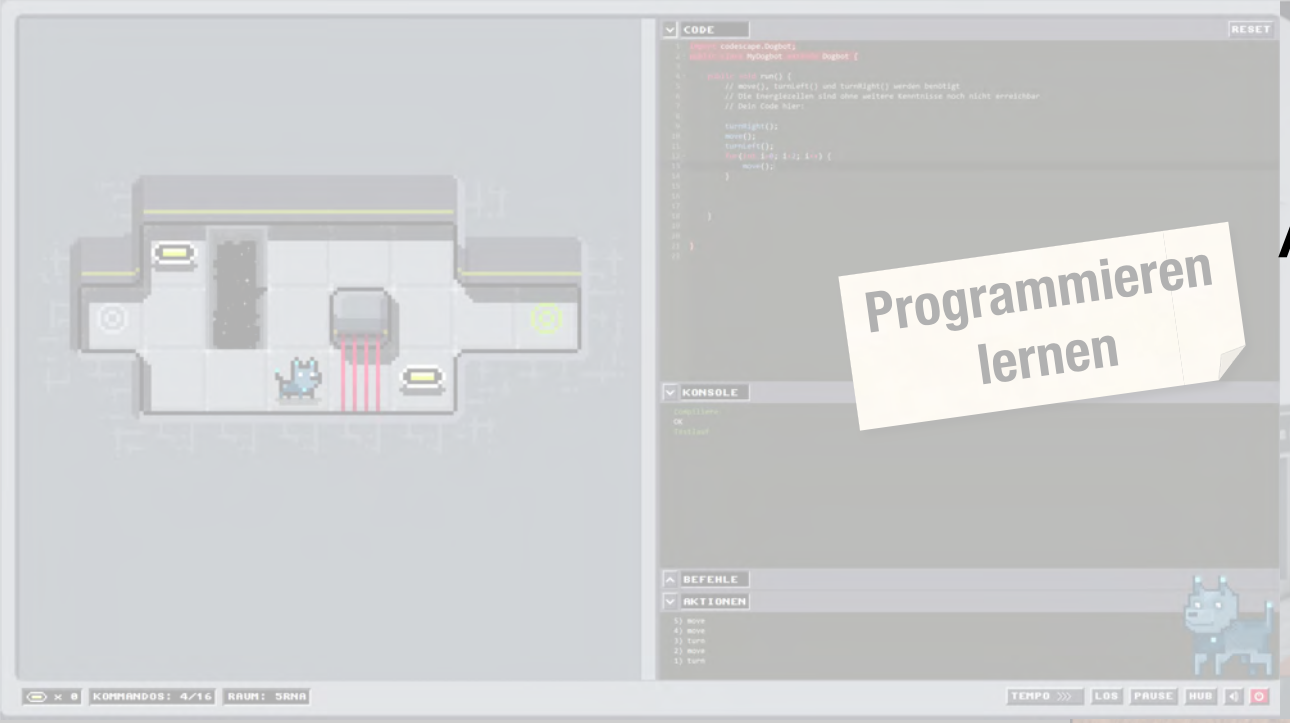
TU Dresden
01062 Dresden

Telefon: 0351 463 34951
Fax: 0351 463 34963
E-Mail: medienzentrum@tu-dresden.de
http://tu-dresden.de/mz

mit freundlicher Unterstützung von
Alexander Schulz
alexander.schulz@cedis.fu-berlin.de

Aufgabenformate

in E-Prüfungssystemen



Programmieren lernen

Mikro-Stadtplanung

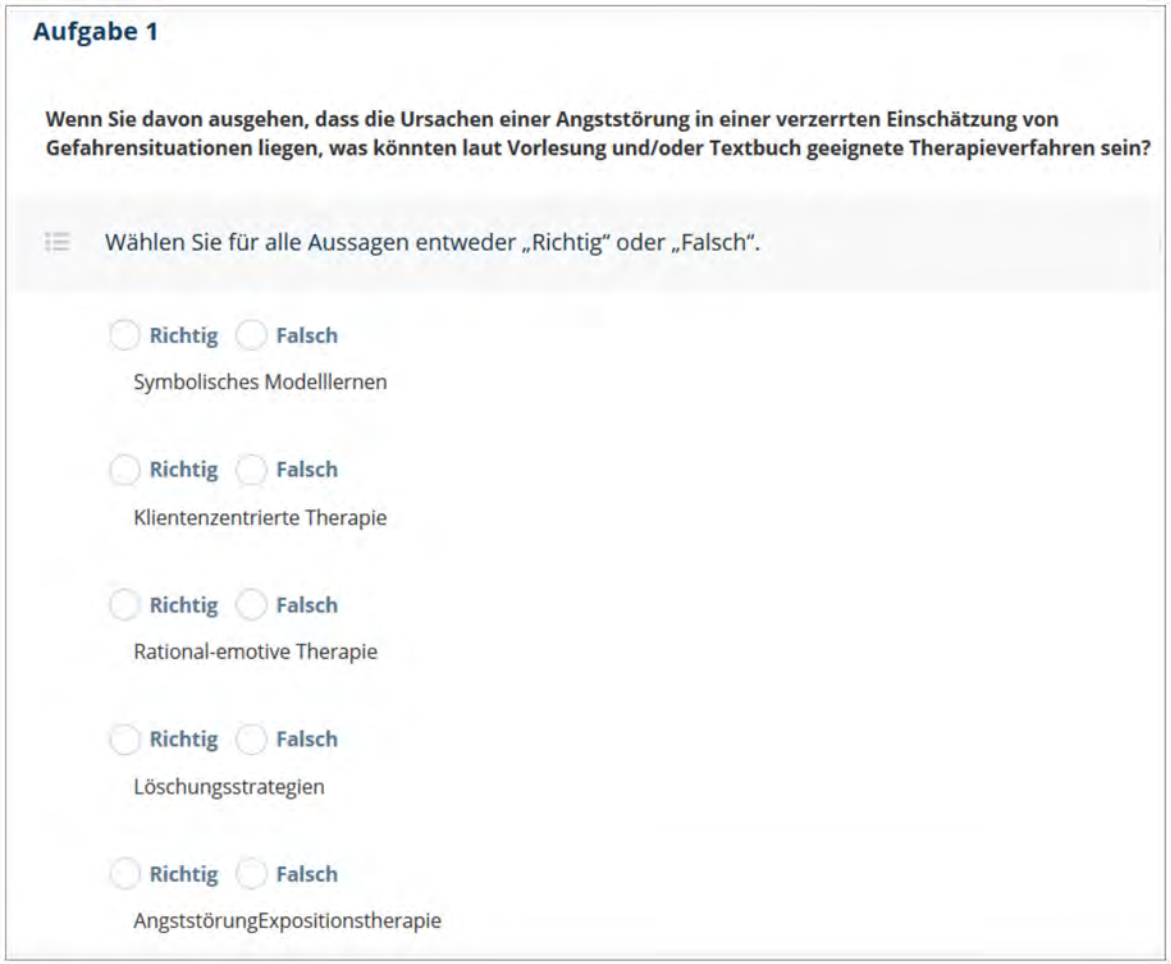
Wirtschafts-simulation

Biblische Theologie

- Multiple-/Single-Choice-Aufgaben
- Kprim-Aufgaben
- Zuordnungsaufgaben
- Klassifikationsaufgaben
- Lückentext-Aufgaben ("CLOZE")
- Bildannotation/Hotspot/ImageMap

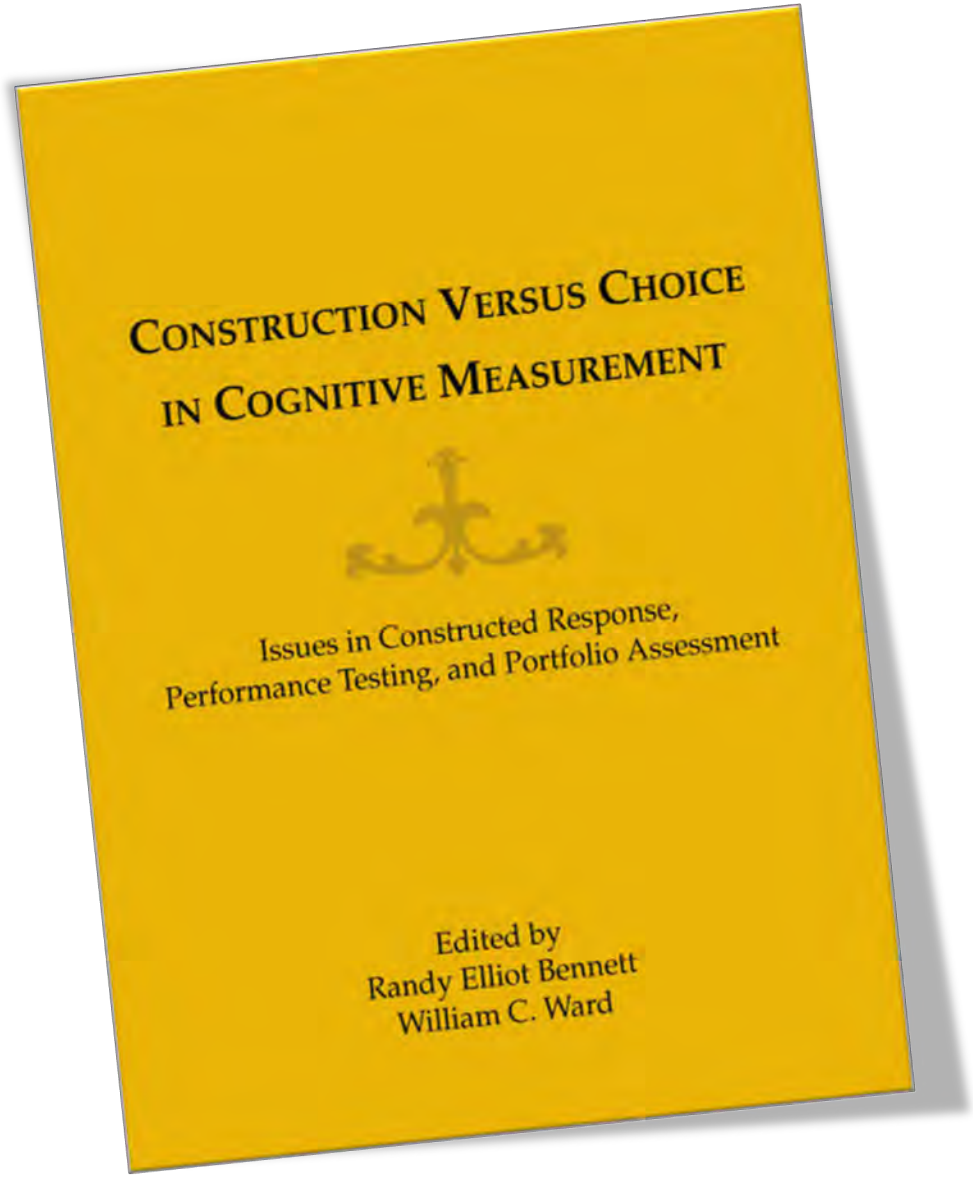
- Ergebniseingabe
- Freitextaufgaben
- Scan-Aufgaben

- Fachspezifische Aufgaben (z.B. Coding, Formeln, CAS, Buchungen)



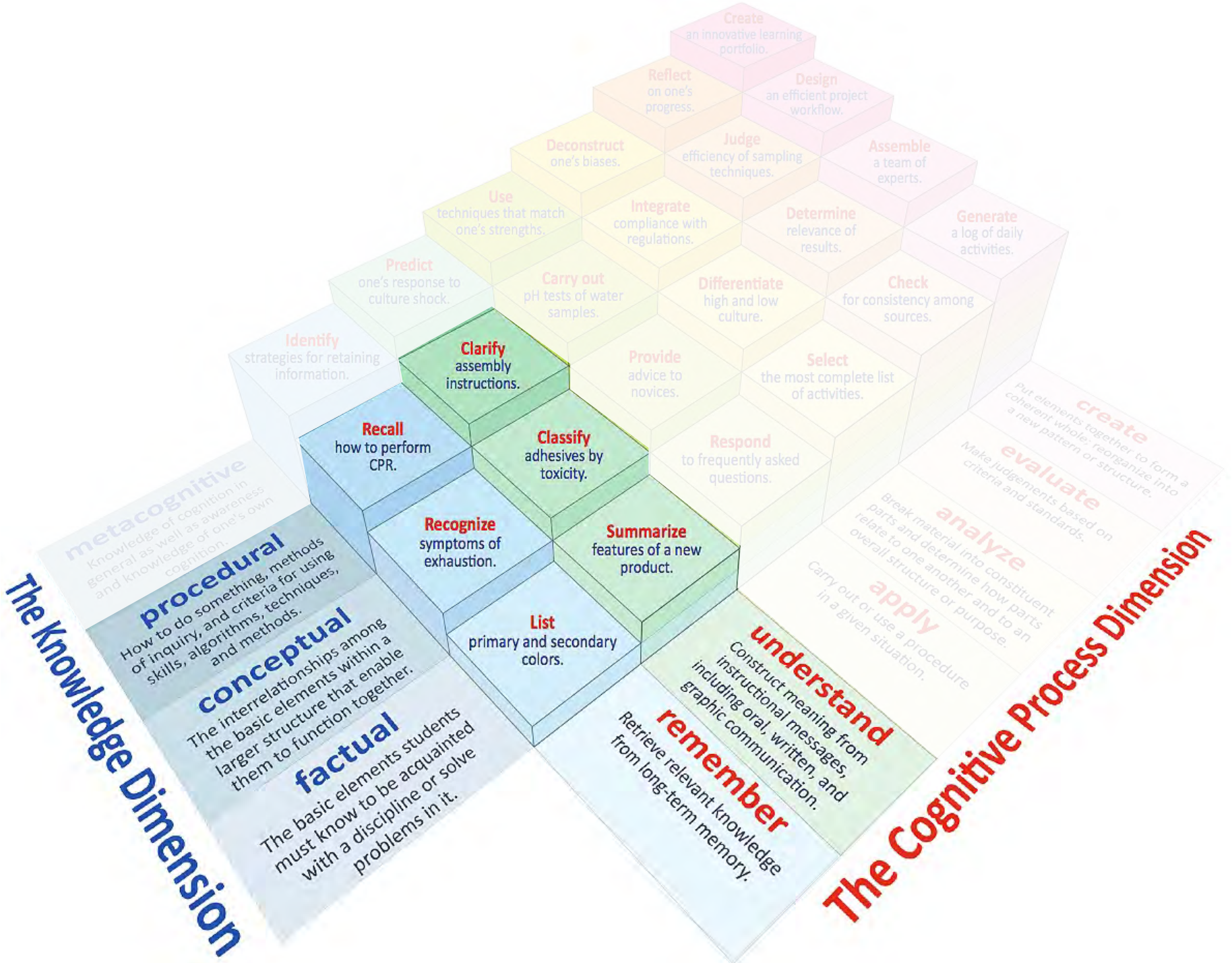
Übersicht E-Prüfungssysteme
https://t1p.de/lcb0

Die Formulierung psychometrisch guter MC/SC-Fragen erfordert eine gründliche Einarbeitung in Fragen-konstruktion und Fragenrevision.



„Regelkunde“ für Multiple Choice Fragen

- Beantwortbar, ohne die Fragen/Antworten zu lesen
- Keine Cue-Words („nie“, „immer“ etc.)
- Ähnlich lange Antwortalternativen
- Gleich plausible Antwortalternativen
- Gleich wahrscheinliche Positionen für „richtig“
- Nicht zu ähnliche Antwortalternativen
- Wenige Wortwiederholungen
- Wenig Negationen
- 4 oder mehr Antwortalternativen
- Anzahl korrekter Antworten mitteilen


The Knowledge Dimension
metacognitive
Knowledge of cognition in general as well as awareness and knowledge of one's own cognition.
procedural
How to do something, methods of inquiry, and criteria for using skills, algorithms, techniques, and methods.
conceptual
The interrelationships among the basic elements within a larger structure that enable them to function together.
factual
The basic elements students must know to be acquainted with a discipline or solve problems in it.
The Cognitive Process Dimension
remember
Retrieve relevant knowledge from long-term memory.
understand
Construct meaning from instructional messages, including oral, written, and graphic communication.
apply
Carry out or use a procedure in a given situation.
analyze
Break material into constituent parts and determine how parts relate to one another and to an overall structure or purpose.
evaluate
Make judgements based on criteria and standards.
create
Put elements together to form a coherent whole; reorganize into a new pattern or structure.
Recall
how to perform CPR.
Clarify
assembly instructions.
Classify
adhesives by toxicity.
Recognize
symptoms of exhaustion.
Summarize
features of a new product.
List
primary and secondary colors.
Identify
strategies for retaining information.
Predict
one's response to culture shock.
Carry out
pH tests of water samples.
Provide
advice to novices.
Respond
to frequently asked questions.
Use
techniques that match one's strengths.
Integrate
compliance with regulations.
Differentiate
high and low culture.
Select
the most complete list of activities.
Deconstruct
one's biases.
Judge
efficiency of sampling techniques.
Determine
relevance of results.
Check
for consistency among sources.
Reflect
on one's progress.
Assemble
a team of experts.
Generate
a log of daily activities.
Design
an efficient project workflow.
Create
an innovative learning portfolio.

THE SAMR MODEL

Dr. Ruben R. Puentedura

S — **SUBSTITUTION**
Technology acts as a direct substitute, with no functional change

A — **AUGMENTATION**
Technology acts as a direct substitute, with functional improvement

M — **MODIFICATION**
Technology allows for significant task redesign

R — **REDEFINITION**
Technology allows for the creation of new tasks, previously inconceivable

ENHANCEMENT

TRANSFORMATION

Arbeitsphase:
Prüfen mit E-Prüfungssystemen

https://miro.com/app/board/o9J_lvUsWng=/

Auswahl

Anzahl Prüflinge

- 1
- 2 - 5
- 6 - 15
- 16 - 30
- > 30

Ergebnisse

- Schriftliche Darlegung
- Mündliche Erörterung
- Praktische Handlung
- Fachspezifisches Produkt

Feedbackquellen

- Selbstbeurteilung
- Lehrperson / Dozierende
- Coach / Mentor / Praktikumsleitung
- Tutorin / Teaching Assistant
- Expertin / Assessor
- Mitstudierende / Gruppenmitglieder
- Patienten / Kundinnen / Auftraggebende
- Computer / Software

Aufgabentypen

- Reproduktion (Fakten erinnern)
- Interpretation (Konzepte/Modelle beschreiben)
- Anwendung (Verfahren ausführen / Erkenntnisse übertragen)
- Analyse (Zusammenhänge ermitteln)
- Evaluation (Kriterienorientiert beurteilen)
- Entwicklung (Neues entwerfen)
- Realisierung (Praktische Umsetzung)

Assessments

Folgende Assessments stimmen genau mit Ihren Anforderungen überein:

Confidence-based Assessment	100%
Lehrveranstaltungs- bzw. Sitzungsprotokoll	100%
Multiple Choice Prüfung	100%
Problemerkennungsaufgaben	100%
Prüfungsfragen selber erstellen	100%
Schriftliche Umordnungs-Aufgabe	100%
Sieben W's	100%

Folgende Assessments stimmen teilweise mit Ihren Anforderungen überein:

Merkmals- oder Funktionsmatrix	93.75%
Pro- und Kontra-Tabelle	93.75%
RSQC2	93.75%
Take-Home-Klausuren	93.75%
Einen wissenschaftlichen Artikel für eine fiktive Zeitschrift verfassen	87.5%
Falllösung erstellen	87.5%
Forumsbeiträge im Netz	87.5%
Lernportfolio erstellen	87.5%

Elektronische Prüfungsportfolios

Prüfungsportfolios sind (digitale) Sammlungen von Leistungsartefakten anhand klarer Vorgaben, um die Erreichung festgelegter Lernziele sowie den Erwerb unterschiedlicher Kompetenzen zu dokumentieren.

TO PORTFOLIO OR NOT TO PORTFOLIO

HELPFUL OR HYPED?

Judy Lombardi

Abstract. Portfolios have received mixed but primarily positive reviews in colleges and universities. The portfolio offers a tool of authentic assessment as well as an opportunity for students to be reflective practitioners. Portfolio implementation and evaluation has become a feature of many university departments. The author describes different approaches to portfolios, as well as the origins of and research related to portfolio use.

Keywords: *assessment, education, portfolio, writing*

> The portfolio is probably the single most important reason I am resigning my position at this university. The portfolio seems like overkill, big time. I will say that once completed, the ones done well are treasured by the student teachers. However, I think their feelings are based mainly on the extraordinary amount of work that went into the preparation. I doubt if anyone has ever used a portfolio to get a job. And preparing twenty-six entries for one portfolio? Bah humbug.

This quote from an individual at my university, who supervised student teachers in the field for years and helped score stacks of portfolios, reflects some of the current antipathy toward portfolio development and scoring in college and university departments.

Not all commentary on portfolios is negative, however, as evidenced by the upbeat tone of Kalamazoo College (Michigan) in providing information to students on portfolios:

> The Kalamazoo Portfolio is a tool designed to help you make informed decisions about your educational path. It's part journal, part goal sheet, and part educational map. It's a series of Web pages which you'll save in your e-mail account (don't worry about privacy; it's easy to lock your Portfolio). It's also a graduation requirement and part of the academic advising process. And though it may seem like extra work at first, it is a very useful tool to help you get the most out of your Kalamazoo College education. (Biziorek 2003)

Judy Lombardi is an associate professor of secondary education at California State University–Northridge and coordinator of the secondary accelerated collaborative teaching program.
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Portfolios have become a fixture in higher education institutions across wide variety of academic fields. They have evolved in form, type, and purpose and have a rich history in many disciplines.

Where Did Portfolios and Portflios Come From, Anyway?

For decades, portfolios have served as evaluative tools of fine arts and creative writing departments, as students looked for ways to showcase their best work. The early roots of today's portfolios can be traced to the mid-1980s, with the work of Peter Elbow and Pat Belanoff (1986), who served as administrators for a writing program with a written exit exam. Elbow and Belanoff, dissatisfied with the holistic scoring method used on the exam, experimented with portfolios. Their students submitted folders with writing across several genres, rather than only one. A new emphasis on process over product occurred as well.

In the late 1980s and early 1990s, portfolio-based programs emerged at Purdue University, Miami University of Ohio, and the University of Michigan; the junior portfolio program at Washington State University also appeared (Beagle 2004). Portfolios were generally divided into two categories: the process portfolio or the product portfolio. Process-oriented work demonstrates the

Harold Asturias

Using Students' Portfolios to Assess Mathematical Understanding

In 1989, NCTM published the *Curriculum and Evaluation Standards for School Mathematics*, which presented the mathematics profession with a broad view of the important mathematics that should be taught in schools. Two years later, the *Professional Standards for Teaching Mathematics* gave teachers the opportunity to address the pedagogical issues inherent in teaching a broad-based, thinking curriculum as described in the curriculum standards. The next link, assessment, though part of the first document, required specific attention. *Assessment Standards for School Mathematics*, currently in progress, will present the criteria for judging the appropriateness and quality of assessment tools and systems.

Portfolios in progress become opportunities for midcourse adjustments

Teachers continuously assess their students' progress in the course of day-to-day instruction. This internal assessment is not valued when such traditional tools as standardized testing are used for external—and high-stakes—assessment. The *Assessment Standards* document will outline a framework that values the role teachers play in assessing their students' work and will recommend ways in which the internal assessment can be used as part of external systems of assessment. The assessment standards are based on the assumption that teachers develop a useful, uniquely detailed sense of what their students know and can do through constant interaction with their students. One assessment tool that weighs the work each student does and the progress made, while illustrating the whole classroom for external assessment, is the student's portfolio.

Portfolios have long been used successfully to evaluate a student's work in the arts and writing. In recent years, mathematics teachers have used portfolios in their classrooms to make instructional decisions. The mathematics education community is currently trying to define what it means to use mathematics portfolios as a way to assess what students are learning.

WHY USE PORTFOLIOS IN THE MATHEMATICS CLASSROOM?

The use of portfolios to assess students' progress toward important goals offers many advantages.

As students begin to work on portfolios, they take an active role and assume some responsibility in their own assessment. When they judge the quality of their work while selecting the pieces to be included, they begin to reflect on their own learning and on ways to improve it. Portfolios contrast with on-demand assessment in that they allow students to include work at different stages of completion as drafts, revisions, and final versions. In so doing, students can include pieces of longer, sustained work completed in and outside the classroom.

As a work in progress, portfolios show students and their teachers concrete evidence of the progress made toward preestablished goals and yield more information about what and how students learn than do other, more traditional forms of assessment. Continually examining the contents of the portfolios in progress presents opportunities for midcourse adjustments that students and teachers can make in their instructional interaction.

Finally, collectively and as finished products, portfolios are a way for students, teachers, parents, and external assessors to communicate and share expectations about students' learning. This process is the foundation of a standards-based educational system. Portfolios are a permanent record of students' understanding and accomplishments at vari-

Edited by **Linda Wilson**
University of Delaware
Newark, DE 19716

Harold Asturias is affiliated with the New Standards Project, Oakland, CA 94617. He is interested in the development of assessment systems that are classroom based and show evidence of the breadth, depth, and quality of students' work. Linda Wilson teaches at the University of Delaware. She is interested in assessment issues in the mathematics classroom and is assistant project director of NCTM's Assessment Standards.

The Use of Student Portfolios in Engineering Instruction

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The Ohio State University

MARYBETH LIMA
Department of Biological and Agricultural Engineering
Louisiana State University

ABSTRACT

Student portfolios are listed as a possible means of assessment under the basic level accreditation criteria for ABET "Engineering Criteria 2000." Efforts to initiate student portfolios in engineering instruction have been reported anecdotally in the literature, but a formal study on student portfolios in engineering has not been presented. We assigned student portfolios to freshmen and seniors taking biological engineering core courses containing a significant design component, and evaluated their effectiveness based on exit surveys, course evaluations, and instructor reflection. Portfolios were used to initiate student-centered learning, and to address the assessment issues raised by ABET. Results showed that 78% of seniors and 80% of freshmen believed that the use of student portfolios enhanced their learning. Among the freshmen, 69% of those students who were identified as sensing types by the Myers-Briggs Type Indicator found portfolios useful, while 87% of the intuitive types found them useful. In this paper, the methodologies for using portfolios are detailed, the results of applying the portfolio method are presented, and implications and recommendations are discussed.

I. INTRODUCTION

The Accreditation Board of Engineering and Technology (ABET) recently published Engineering Criteria 2000, which sets new standards for evaluating and accrediting engineering programs in the United States.[1] The criteria are purposefully non-prescriptive in nature to encourage innovation in engineering education.[2] Proceedings from the National Conference on Outcomes Assessment for Engineering Education[3] reflect educators' frustration with this issue. The process for implementing new means of assessment will be iterative in nature, and will involve collaboration among educators, industry leaders, accreditors, and stakeholders.[1]

Engineering Criteria 2000 cited the student portfolio as a possible means for meeting criterion three: program outcomes and assessment. Shackelford[4] defined the student portfolio as "a purposeful collection of materials capable of communicating student interests, abilities, progress, and accomplishments in a given area." Portfolios are a useful tool in assessing learning because they require students to review their work and engage in a process of reflection, selection, and description.[1]

While student portfolios have long been used to document student learning and mastery in subjects such as art, journalism, and architecture, their use in engineering education has been a relatively recent phenomenon,[5-7] with little supporting literature.[5-9] Paratz[7] briefly described the use of student portfolios in technical courses at five universities. Olds[5] illustrated the use of student portfolios in assisting engineering students' writing skills. Cross and McCullough-Cross[6] discussed portfolios in engineering courses as a means of reflective assessment. Johnson[10] used the student portfolio in conjunction with a professional development course for engineers.

We have used student portfolios in an effort to initiate student-centered learning. The portfolio method encourages students to take greater responsibility for their own learning, and makes explicit the life-long nature of engineering education. Our hope is that if students are given more proactive roles in their learning process, they will better comprehend engineering concepts and their future roles as practicing engineers.

The following study evolved from our on-going dialogue about student-centered learning, and from participation at The Ohio State University (OSU) in a course entitled College Teaching in Engineering. Our objectives were 1) to develop a portfolio method for engineering students taking our courses, 2) to evaluate the success of portfolios in terms of learning and assessment, and 3) to reflect on the use of this instrument and make recommendations for future work. This paper documents the first year of implementing these objectives.

II. METHODS

A. Course Description

AE 625: Modeling and Design of Biological Systems. This is a senior level core course in OSU's agricultural engineering curriculum. The topics for this course include enzyme kinetics; simulation of animal, plant, and microbial growth; and the analysis and design of engineered systems that include biological components and processes. Design examples and assignments were drawn from the food, agricultural, and environmental fields and were divided into six categories: homework, laboratory reports, examinations, individual student presentations of biological engineering applications, team design projects, and other optional items of the students' own choosing. Twenty-five students, including five graduate students, were enrolled in this course.

BE 1252: Biology in Engineering. This freshman core course

Pergamon
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Using portfolios to assess the writing of ESL students: a powerful alternative?

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Abstract

This article describes a quantitative study that compared the performance of two groups of advanced ESL students in ENG 22, a second semester composition course. Both groups had been enrolled in ENG C2, a compensatory version of Freshman English for students with scores one level below passing on the CUNY Writing Assessment Test (WAT). At the end of ENG C2, one group was assessed on the basis of portfolios, as well as the CUNY WAT; the other was assessed using the WAT. Comparable percentages of students in both groups passed the WAT at the end of C2. However, students from the portfolio group with passing portfolios were permitted to advance to ENG 22 regardless of their performance on the WAT, while students in the non-portfolio group moved ahead only if they had passed the WAT. (The WAT remained a graduation requirement for all students.) The study found that students were twice as likely to pass into ENG 22 from ENG C2 when they were evaluated by portfolio than when they were required to pass the WAT. Nevertheless, at the end of ENG 22, the pass rate and grade distribution for the two groups were nearly identical. Because portfolio assessment was able to identify more than twice the number of ESL students who proved successful in the next English course, however, it seems a more appropriate assessment alternative for the ESL population. © 2002 Elsevier Science Inc. All rights reserved.

Keywords: Portfolio assessment; ESL students; CUNY WAT

Introduction

Portfolio assessment of writing, which incorporates several diverse writing samples produced at different times, has often seemed ideally suited to programs

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Portfolio assessment in medical students' final examinations

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SUMMARY *The introduction of an outcome-based approach to education at Dundee Medical School in Scotland instigated a search for assessment methods that would appropriately assess the students' achievements in terms of the learning outcomes. Portfolio assessment has been developed for this purpose and has been adopted for the summative assessment of students in their final examination in Dundee. The contents of the portfolio and the assessment process have been defined and the first cohort of students to be assessed in this way has been studied. The evaluation of the approach demonstrated strong staff support. Students were also positive although with some reservations. It is concluded that portfolio assessment is a powerful approach to assessing a range of curriculum outcomes not easily assessed by other methods and is worthy of inclusion in the assessor's toolkit.*

Introduction

Assessment of student performance in the final examination is perhaps one of the most important responsibilities of the medical teacher. Traditional finals have included both written and clinical examinations in a range of individual disciplines. Unstructured clinical and viva voce examinations and the use of essays have been criticized in the past (Stokes, 1974; Newble, 1992) and to address these criticisms approaches such as the objective structured clinical examination (OSCE) (Harden & Gleeson, 1979) were introduced to assess clinical competence.

Assessment, however, has not kept pace with curriculum change (Harden, 1996) and insufficient research has been carried out into assessment. The General Medical Council (GMC, 1993) in *Tomorrow's Doctors*, for example, highlighted the need to move to more integrated forms of assessment in line with curriculum change. 'It is essential that assessment systems adequately test the achievement of these [curriculum] goals and that they reflect the integrated nature of the curriculum.' (p. 18)

The problem has been put into sharp focus by an increasing emphasis on outcome-based education (Harden, Crosby & Davis, 1999), where the various competences that are needed to make a good doctor and that require to be tested, are specified. It is a major challenge to develop robust methods that will assess whether students have or have not reached the required standard in the curriculum outcomes at the end of their undergraduate training.

Portfolios offer a possible tool and have been used for assessment purposes for some time in a range of areas, in particular the fine arts and architecture. A portfolio is a collection of papers and other forms of evidence that learning has taken place. The use of portfolios for assessment has been described and attention has been drawn to their potential in medicine (Snadden & Thomas, 1998; Challis, 1999). This paper describes a new approach to the final examination based on portfolios, which has been piloted in Dundee Medical School.

The Dundee Curriculum

The Dundee undergraduate medical programme is a five-year course with an integrated, systems-based, spiral curriculum based on the core and special study module (SSM) model (Harden *et al.*, 1997). For the one year of this study, 11 learning outcomes had been identified. Subsequently, one outcome was subdivided to give a total of 12 outcomes. The 12 curriculum outcomes or goals have been identified (Harden, Crosby & Davis, 1999; Harden, *et al.*, 1999) and are shown in Appendix 1. Students progress towards these outcomes in the three phases of the curriculum.

In phase 1 (year 1), the emphasis is on normal structure, function and behaviour and in phase 2 (years 2 and 3), on abnormal structure, function and behaviour. In phase 3 (years 4 and 5), a task-based learning approach has been adopted (Harden *et al.*, 2000). Students build on their prior learning and apply it to approximately 100 core clinical problems that they meet in hospital wards and outpatient departments and in general practice attachments.

Twenty-one curriculum themes run throughout all three phases of the undergraduate course. These include traditional disciplines or specialities such as anatomy, pathology and clinical pharmacology and topics that the GMC (1993) identified as of particular importance; for example, health promotion and disease prevention, clinical skills and disability and rehabilitation. Each theme has a theme convenor or advocate who ensures appropriate representation for his/her theme throughout the curriculum.

In year 4, students rotate through 10, four-week block attachments: general medicine, general medicine with neurology, dermatology/ageing and health, general practice, child health, otolaryngology/ophthalmology/urology, general surgery, musculoskeletal medicine and surgery/emergency care, psychiatry, obstetrics and gynaecology.

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Portfolios in Teacher Education

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There is a new room in Dewey Hall, the college of education building. On the right side of the room, library shelves contain accordion folders, ring binders, and encased videotapes. To the left are other containers — plastic milk crates, garbage bags, and bulging brief cases. Across the back wall are the typical accouterments of an education professional: a copy machine, a word processor, a videotape editing machine, a work table with a paper cutter, scissors, tape, paper clips, pens, pencils, and high lighters. Several mobiles hang from the ceiling. Down the center of the room are library tables with straight chairs and scattered to the sides are lounge chairs where prospective teachers argue the meaning of collected evidence. A child's red wagon and a grocery cart stand in the corner next to an oversized art case.

The room is the college's portfolio work/storage room. In this room a new vision of teacher education is becoming a reality. Here teacher education students give substance to their personal ideas about the knowledge, beliefs, and skills of a teacher. Here teacher portfolios are designed and developed. The experience of developing a portfolio provides the prospective teachers opportunities to become decision makers about curriculum, to develop various instructional repertoires, to create productive classroom environments. Faculty who design the portfolios use the design process as a tool to enable both prospective and practicing teachers to integrate theory and practice about teaching, learning, knowledge, students, and the school milieu.

In this article, we share a model for a teacher education portfolio. We present reasons why portfolios might be useful for assessment in teacher education programs, delineate characteristics of an educational portfolio, and describe how one might design and develop portfolios. We conclude by describing how portfolios have worked in our respective programs, one a graduate program for teachers of literacy and the other an undergraduate program for prospective science teachers.

Why Use Portfolios in Teacher Education?

We can best articulate the reasons for the use of portfolios in teacher education by contrasting it with the comprehensive exam, another method commonly used to evaluate the success of graduate students in a program. Students traditionally take the comprehensive exam during their final semester of study. It generally consists of a series of written responses to essay questions submitted by various faculty members. Student responses are graded pass/fail, and there is usually some mechanism for students to retake the exam at a later date if their initial attempt ends in failure.

Any new approach to evaluating prospective graduates of a teacher education program should take into account the kinds of experiences they encounter and the professional duties they will be called upon to perform in the schools. The evaluation process must also consider such limitations as the potential resources (i.e., time constraints, use of facilities, funding, personnel) available for that student evaluation. One advantage of the current comprehensive examination format is its minimal impact on the above resources. A relatively brief block of time is set aside each semester for the exams, existing facilities can easily be utilized for its administration, and education faculty have over the years developed a file of appropriate questions and acceptable answers to contribute to the exam. Despite the ease of administration (perhaps because of it), some questions must be asked: What specifics can be learned about

Electronic Portfolios in Physical Education

PART IV

BONNIE MOHNSEN

KAREN MENDON

This article is Part 4 of the multipart series addressing the use of several new technologies that can assist physical educators with instruction and assessment: handheld computers, video technology, multimedia project development, and electronic portfolios. In the previous articles, we explored using handheld computers that can assist teachers with data collection on the field (*Technology in Physical Education*), the use of video technology in the learning process (*Using Video Technology in Physical Education*), and the creation of multimedia projects by students as an assessment tool (*Multimedia Projects*). In this fourth article, we will examine electronic portfolios as an assessment tool that documents student learning in physical education.

The National Standards present a variety of alternative and authentic assessment tools. One of these tools is portfolios. Students throughout the curriculum are using portfolios to document and promote learning. Portfolios provide students with the opportunity to celebrate their learning and to focus on what they can do as opposed to what they can't do. The time has come for students in physical education to do the same. Portfolios, as explained by the National Association for Sport and Physical Education (NASPE) (1995), "include various pieces of evidence documenting student achievement of a goal" (NASPE, p. 117). For example, in a fitness unit, this may include the creation of a 1-week fitness plan that the student implements and then revises. Both the original and the revision are placed in the portfolio to document growth.

USING ELECTRONIC PORTFOLIOS

Electronic portfolios help with the collection, organization, and storage of information by incorporating digital pictures, digitized video, rubrics, text, and fitness scores into an electronic file. These electronic portfolios are fairly easy to learn; and once learned, they are very easy to use. It's important that teachers read the instructions that accompany the software and then spend a few hours familiarizing themselves with the software. Once teachers have learned the software, electronic portfolios will save them time in collecting, storing, and revisiting student work.

Electronic portfolios can be stored on a floppy disk (1.4 mg), a Zip disk (100 mg), or a CD-Recordable (650 mg) depending on the hardware available to the students. There are several generic electronic portfolios on the market that are used by teachers in mathematics, science, language arts, and history/social science. They include: (1) Grady Profile (Software for Teachers) and (2) Scholastic Electronic Portfolio (Scholastic). In addition, students can create their own electronic portfolios using authoring software such as LinkWay Live (IBM) for the personal computer, HyperCard for the Macintosh (Apple), and HyperStudio (Roger Wagner) for the personal computer and Macintosh. Finally, students in physical education can use HyperCard stacks formatted as electronic portfolios. Currently, several versions of these are on the market, including MacHealth Related Fitness Tutorial and Portfolio (Bonnie's Fitware), MacPortfolio (Bonnie's Fitware), and MacVolleyball Complete (Bonnie's Fitware).

In each portfolio, students can input written information and paste in pictures. For the visual field of physical education, these portfolios are also ideal because students can incorporate video clips showing their performance before and after practice. Digitized video provides the vehicle to include these video clips in the portfolios. Portfolios that have been formatted for physical education also store information

Improving Assessment in University Economics

William B. Walstad

Abstract: The author discusses the following seven issues affecting assessment of undergraduates in universities: decisionmaking and the selection of tests, the use of written and oral assignments to measure learning, the characteristics of grades and portfolios for evaluating students, opportunities for self-assessment and feedback to instructors, retention of learning and the testing for higher-ordered thinking, the psychology of students in the economics classroom, and the development of new tests as public goods. The author suggests ways that economics faculty can add new dimensions to their assessment practices, improve their understanding of assessment choices, use assessment to enhance the quality of student thinking, and conduct research studies on assessment questions.

Key words: active learning, assessment, economics courses, research, testing
JEL code: A22

Assessment is an integral part of faculty teaching and student learning in university economics. Economics instructors spend a substantial amount of time evaluating student economic understanding through classroom tests, quizzes, homework, papers, and projects. They then use that information to assign course grades. Assessment, however, goes well beyond testing and grading. Instructors can use a variety of classroom assessment techniques to obtain feedback from students to identify learning problems and guide their teaching efforts (Angelo and Cross 1993). These learning activities also give students an opportunity to check their understanding and prepare themselves for class and to do assignments. Assessment is thus a multi-dimensional activity and information resource for economics teachers and students, a theme that will be emphasized throughout this article.

What follows is a discussion of seven issues that illustrate the multi-faceted nature of assessment. Economics faculty members should consider each one to understand the full range of assessment work and choices in economic education. Some of the issues, such as selecting a test or obtaining student feedback, are thought about primarily when teaching a course. Other issues, such as student portfolios or retention of knowledge, cut across courses or majors and are considered over longer time periods. Still other issues, such as student psychology

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LEARNING PORTFOLIO AS A TOOL FOR ASSESSING COMPETENCES IN PHYSICAL CHEMISTRY

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Abstract

Physical Chemistry is a classic discipline in Chemistry, Chemical Engineering and Pharmacy curricula: its structure is based on many different knowledge areas, which may lead to an inappropriate, dispense and poor study of its contents. The introduction of the European Higher Education Area (EHEA) has triggered a deep review of the Physical Chemistry syllabus in the BSc (Grade) in Chemistry. In addition it has led to an update and a redistribution of its contents in more basic and condensed subjects that deal with fundamental aspects, leaving all specific and more novel (advanced) contents for Master and Doctorate studies. This new redistribution should have a set of proper assessment methods in line with the new EHEA formative plan, focused on competences and their continuous evaluation. In this work, a new evaluation model is presented based on the use of the learning portfolio as working tool; each student is continuously assessed not only from a grading perspective but also from a formative point of view, i.e. with an explicit indication of the level achieved for each competence.

Keywords: Formative assessment, competences, learning portfolio, physical chemistry

1 INTRODUCTION

Among all classical Chemistry areas, Physical Chemistry has a rather multidisciplinary nature [1], ranging from the macroscopic study of natural phenomena (thermodynamics and chemical kinetics) to the properties of matter in the microscopic realm (quantum chemistry and spectroscopy), as well as the principles that relate both (statistical thermodynamics). Moreover, the present structure of university studies implies a new teaching-learning model that is more focused on knowledge mobilization (know-what and know-how) in different changing contexts, i.e. competences [2]. In this new scenario altogether with the specific characteristics of the knowledge area, a new proposal that evaluates competences in a more genuine way must be implemented [3], in accordance with present scientific grades requirements.

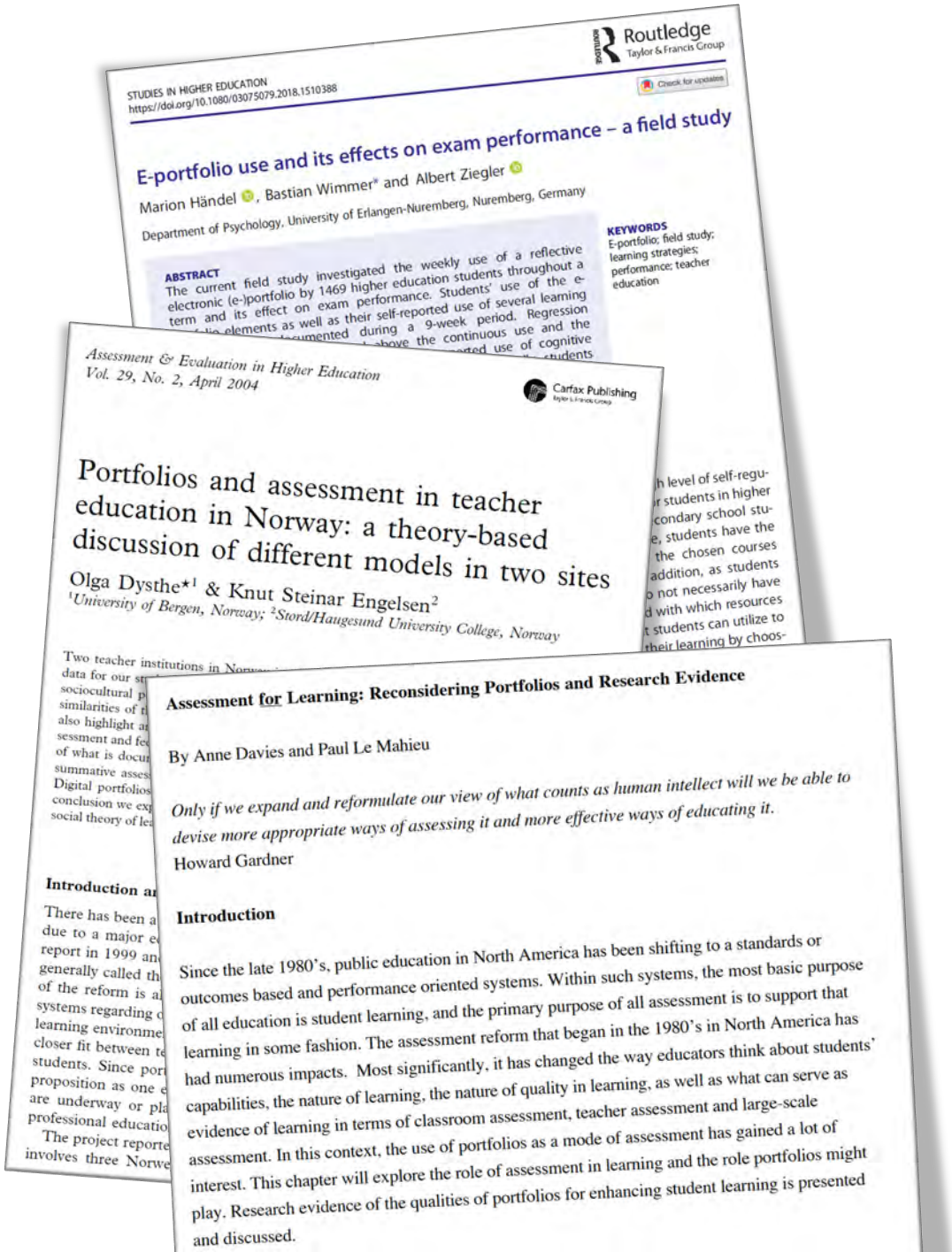
The multifaceted Physical Chemistry syllabus can lead some teachers to provide their students with a fragmented and diluted corpus of concepts and skills. Therefore, it is of utmost importance to carefully examine the meaning of Physical Chemistry itself in the BSc in Chemistry as it is conceptually interwined with other areas, such as chemical bonding study in Inorganic Chemistry, solution equilibria in Analytical Chemistry, or spectroscopy in Organic Chemistry. This analysis should lead to restructure the subjects in a way that provide not only specific contents from the area, but also concepts and techniques that are applicable and have value in other Chemistry areas [1]. In addition, the incorporation of modern contents related with actual research could be tempting but it should not shade the learning of fundamental aspects [4]. In this sense, the present grades (Bachelor) and master structure tries to balance the area subjects in a more coherent way according to their topics and demanding level, splitting them from more specialized and modern topics that appear either as elective or master subjects [5].

Regardless of the ongoing efforts, the new curricula structure does not warrant any significant improvement on what students learn; a new assessment system is required that, within the European Higher Education Area (EHEA) framework, guarantees the competence acquisition, life-long learning and a more appropriate employment procedure in line with an ever changing society [6]. With these assumptions, the Spanish National Institute for Qualification (INCUAL) revised the professional formation system creating a common document for all professional branches and degrees: the National Qualifications Catalogue (CNCP) that "organizes all professional qualifications that are prone to be recognized and accredited, provided they belong to the productive system [...]". In the framework of the Spanish 5/2002 bylaw, a professional qualification is conceived as "a set of

Traditionell werden Portfolios ergänzend zu summativen Abschlussprüfungen eingesetzt.

Dort ermöglichen sie eine formative Steuerung des Kompetenzerwerbs.

Eignung vor allem auf höheren Kompetenzeben



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E-portfolio use and its effects on exam performance – a field study

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KEYWORDS
E-portfolio; field study; learning strategies; performance; teacher education

ABSTRACT
The current field study investigated the weekly use of a reflective electronic (e-)portfolio by 1469 higher education students throughout a term and its effect on exam performance. Students' use of the e- elements as well as their self-reported use of several learning during a 9-week period. Regression above the continuous use and the use of cognitive

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Portfolios and assessment in teacher education in Norway: a theory-based discussion of different models in two sites

Olga Dysthe*[1] & Knut Steinar Engelsen[2]
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Assessment for Learning: Reconsidering Portfolios and Research Evidence

By Anne Davies and Paul Le Mahieu

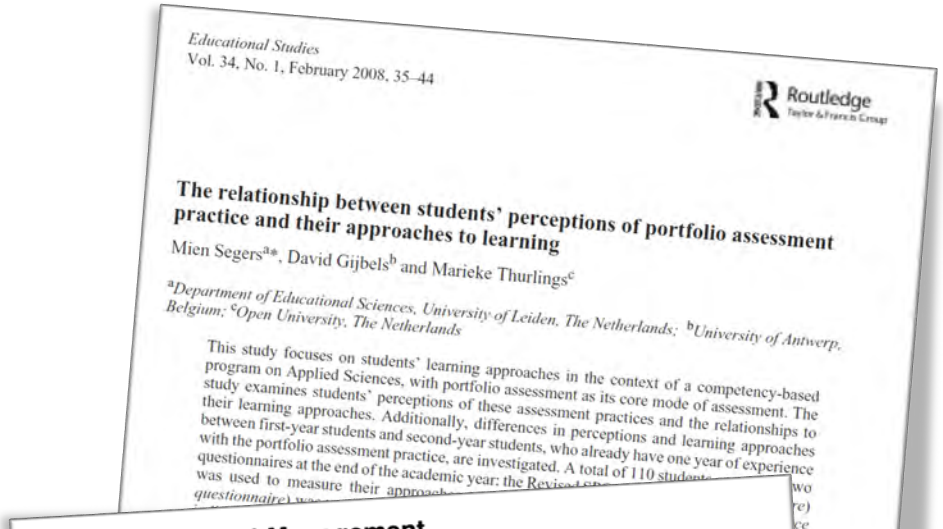
Only if we expand and reformulate our view of what counts as human intellect will we be able to devise more appropriate ways of assessing it and more effective ways of educating it.
Howard Gardner

Introduction

Since the late 1980's, public education in North America has been shifting to a standards or outcomes based and performance oriented systems. Within such systems, the most basic purpose of all education is student learning, and the primary purpose of all assessment is to support that learning in some fashion. The assessment reform that began in the 1980's in North America has had numerous impacts. Most significantly, it has changed the way educators think about students' capabilities, the nature of learning, the nature of quality in learning, as well as what can serve as evidence of learning in terms of classroom assessment, teacher assessment and large-scale assessment. In this context, the use of portfolios as a mode of assessment has gained a lot of interest. This chapter will explore the role of assessment in learning and the role portfolios might play. Research evidence of the qualities of portfolios for enhancing student learning is presented and discussed.

Grad der Auseinandersetzung mit Aufgaben und Leistungsgüte sind abhängig von Art und Qualität des Feedbacks (wenn formativer Einsatz)

Portfolios verbessern tendenziell die spätere Prüfungsleistung.



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Routledge

The relationship between students' perceptions of portfolio assessment practice and their approaches to learning

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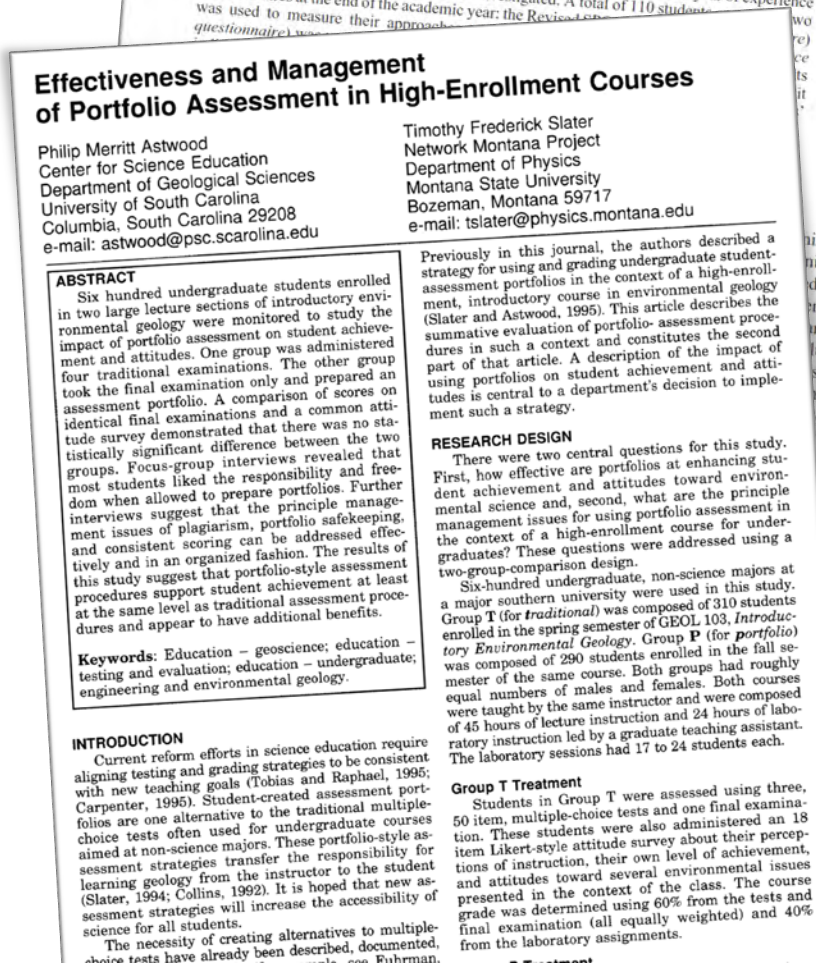
This study focuses on students' learning approaches in the context of a competency-based program on Applied Sciences, with portfolio assessment as its core mode of assessment. The study examines students' perceptions of these assessment practices and the relationships to their learning approaches. Additionally, differences in perceptions and learning approaches between first-year students and second-year students, who already have one year of experience with the portfolio assessment practice, are investigated. A total of 110 students questionnaires at the end of the academic year: the Revised
was used to measure their approach
questionnaire)



Effectiveness and Management of Portfolio Assessment in High-Enrollment Courses

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ABSTRACT

Six hundred undergraduate students enrolled in two large lecture sections of introductory environmental geology were monitored to study the impact of portfolio assessment on student achievement and attitudes. One group was administered four traditional examinations. The other group took the final examination only and prepared an assessment portfolio. A comparison of scores on identical final examinations and a common attitude survey demonstrated that there was no statistically significant difference between the two groups. Focus-group interviews revealed that most students liked the responsibility and freedom when allowed to prepare portfolios. Further interviews suggest that the principle management issues of plagiarism, portfolio safekeeping, and consistent scoring can be addressed effectively and in an organized fashion. The results of this study suggest that portfolio-style assessment procedures support student achievement at least at the same level as traditional assessment procedures and appear to have additional benefits.

Keywords: Education – geoscience; education – testing and evaluation; education – undergraduate; engineering and environmental geology.

INTRODUCTION

Current reform efforts in science education require aligning testing and grading strategies to be consistent with new teaching goals (Tobias and Raphael, 1995; Carpenter, 1995). Student-created assessment portfolios are one alternative to the traditional multiple-choice tests often used for undergraduate courses aimed at non-science majors. These portfolio-style assessment strategies transfer the responsibility for learning geology from the instructor to the student (Slater, 1994; Collins, 1992). It is hoped that new assessment strategies will increase the accessibility of science for all students.

The necessity of creating alternatives to multiple-choice tests have already been described, documented,

Previously in this journal, the authors described a strategy for using and grading undergraduate student-assessment portfolios in the context of a high-enrollment, introductory course in environmental geology (Slater and Astwood, 1995). This article describes the summative evaluation of portfolio- assessment procedures in such a context and constitutes the second part of that article. A description of the impact of using portfolios on student achievement and attitudes is central to a department's decision to implement such a strategy.

RESEARCH DESIGN

There were two central questions for this study. First, how effective are portfolios at enhancing student achievement and attitudes toward environmental science and, second, what are the principle management issues for using portfolio assessment in the context of a high-enrollment course for undergraduates? These questions were addressed using a two-group-comparison design.

Six-hundred undergraduate, non-science majors at a major southern university were used in this study. Group **T** (for *traditional*) was composed of 310 students enrolled in the spring semester of GEOL 103, *Introductory Environmental Geology*. Group **P** (for *portfolio*) was composed of 290 students enrolled in the fall semester of the same course. Both groups had roughly equal numbers of males and females. Both courses were taught by the same instructor and were composed of 45 hours of lecture instruction and 24 hours of laboratory instruction led by a graduate teaching assistant. The laboratory sessions had 17 to 24 students each.

Group T Treatment

Students in Group T were assessed using three, 50 item, multiple-choice tests and one final examination. These students were also administered an 18 item Likert-style attitude survey about their perceptions of instruction, their own level of achievement, and attitudes toward several environmental issues presented in the context of the class. The course grade was determined using 60% from the tests and final examination (all equally weighted) and 40% from the laboratory assignments.

Positive Einstellungen von Studierenden gegenüber Prüfungsportfolios erst nach intensiver Einführung

Gute psychometrische Qualität der Beurteilung und Übereinstimmung mit Abschlussnoten

44th AIAA Aerospace Sciences Meeting and Exhibit
9 - 12 January 2006, Reno, Nevada

AIAA 2006-288

Eliminate Final Exams in Intro to Flight Through The Use of Portfolios?

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Abstract

A portfolio can be an extremely powerful

Medical Teacher, Vol. 23, No. 4, 2001

Portfolio assessment in medical students' final examinations

M.H. DAVIS, M. FRIEDMAN BEN-DAVID, R.M. HARDEN, P. HOWIE J. KER, C. MCGHEE, M.J. PIPPARD & D. SNADDEN
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SUMMARY *The introduction of an outcome-based approach to education at Dundee Medical School in Scotland*

Introduction

Assessment of student performance

Chang, C.-C., & Wu, B.-H. (2012). Is Teacher Assessment Reliable or Valid for High School Students under a Web-based Portfolio Environment? *Educational Technology & Society, 15* (4), 265–278.

Is Teacher Assessment Reliable or Valid for High School Students under a Web-based Portfolio Environment?

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ABSTRACT

This study explored the reliability and validity of teacher assessment under a Web-based portfolio assessment environment (or Web-based teacher portfolio assessment). Participants were 72 eleventh graders taking the "Computer Application" course. The students perform portfolio creation, inspection, self- and peer-assessment using the Web-based portfolio assessment system; meanwhile, the teachers used the assessment tool to review students' portfolios and evaluate their learning performances. The results indicated that: 1) the Web-based portfolio teacher assessment achieved an acceptable level of reliability; 2) the Web-based portfolio teacher assessment, showing a strong level of inter-rater reliability and inner-rater reliability, can be regarded as a reliable assessment method; 3) the Web-based portfolio teacher assessment demonstrated an acceptable level of validity; 4) the portfolio scores were highly consistent with students' end-of-course examination scores, implying that Web-based portfolio teacher assessment is a valid assessment method. Future studies are recommended to gain further insight into the self-built portfolios created by digital tools (e.g. PowerPoint, Word, or Frontpage software), for which effective rubrics and reliability or validity of the assessment may be also provided.

Keywords

Web portfolio, e-Portfolio, Portfolio assessment, Reliability, Validity

Introduction

Despite large time commitment required from both faculty and students, learning portfolios not only have positive influences on the quality as well as process of learning, but also offers a number of benefits not available as using conventional assessment approaches (Zalatan, 2001). Traditional paper-based portfolios are relatively ineffective in terms of inquiry, update, storage and management with particular difficulties in documenting various types of information, e.g. audio and video. Nevertheless, Chang and Tseng (2009a) stated this issue related to information storage can be settled by digital portfolios when technical support is available, such as floppy disk, hard disk, and CD-ROM. If not, Internet technologies may come into play. The Internet has markedly

Viele Leistungsartefakte im Rahmen eines Portfolios sind im Kern wieder Prüfungen mit den bereits beschriebenen Herausforderungen.

Aber: der logistische Aufwand für Täuschungen ist immens erhöht

THE SAMR MODEL

Dr. Ruben R. Puentedura

S — **SUBSTITUTION**
Technology acts as a direct substitute, with no functional change

A — **AUGMENTATION**
Technology acts as a direct substitute, with functional improvement

ENHANCEMENT

M — **MODIFICATION**
Technology allows for significant task redesign

R — **REDEFINITION**
Technology allows for the creation of new tasks, previously inconceivable

TRANSFORMATION

Scanprüfungen

Corona-Hotfix oder Zukunftsmodell

Das Bedienverhalten bei Tablets unterscheidet sich deutlich von der papier-basierten Niederschrift und muss eingeübt werden, bevor die Performanzen vergleichbar sind wie bei der Verwendung von Papier.

Human Movement Science

Full Length Article

Adapting to the surface: A comparison of handwriting measures when writing on a tablet computer and on paper

Sabrina Gerth, Thomas Dolk, Annegret Klassert, Michael Fliesser, Martin H. Fischer, Guido Nottbusch, Julia Festman

1. Introduction

frontiers in Psychology

ORIGINAL RESEARCH

Is Handwriting Performance Affected by the Writing Surface? Comparing Preschoolers', Second Graders', and Adults' Writing Performance on a Tablet vs. Paper

Sabrina Gerth, Annegret Klassert, Thomas Dolk, Michael Fliesser, Martin H. Fischer, Guido Nottbusch and Julia Festman

OPEN ACCESS

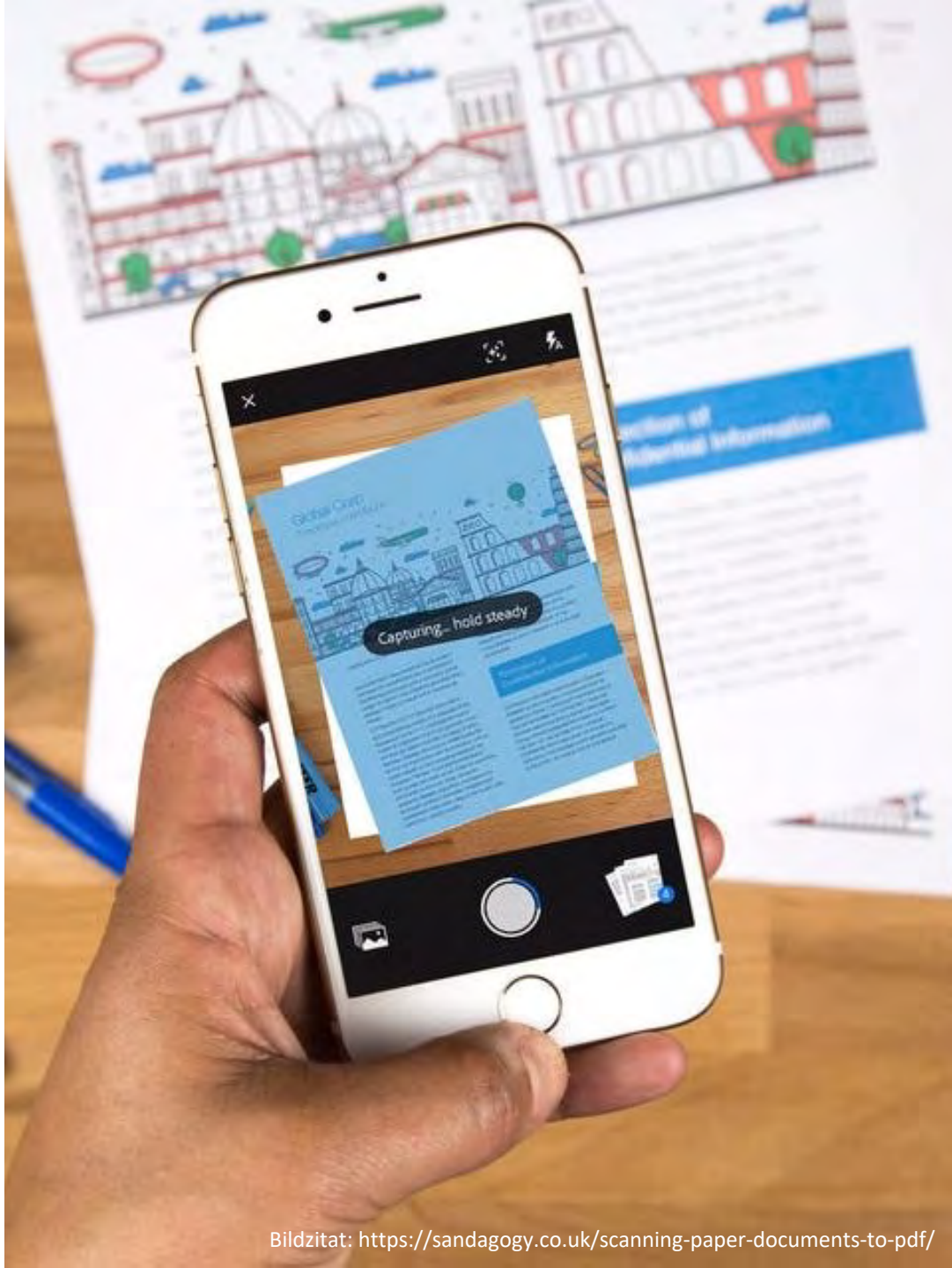
Due to their multifunctionality, tablets offer tremendous advantages for research on handwriting dynamics or for interactive use of learning apps in schools. Further, the widespread use of tablet computers has had a great impact on handwriting in the current generation. But, is it advisable to teach how to write and to assess handwriting in pre- and primary schoolchildren on tablets rather than on paper? Since handwriting is not automatized before the age of 10 years, children's handwriting movements require graphomotor and visual feedback as well as permanent control of movement execution during handwriting. Modifications in writing conditions, for instance the smoother writing surface of a tablet, might influence handwriting performance in general and in particular those of non-automatized beginning writers. In order to investigate how handwriting performance is affected by a difference in friction of the writing surface, we recruited three groups with varying levels of handwriting automaticity: 25 preschoolers, 27 second graders, and 25 adults. We administered three tasks measuring graphomotor abilities, visuomotor abilities, and handwriting performance (only second graders and adults). We evaluated two aspects of handwriting performance: the *handwriting quality* with a visual score and the *handwriting dynamics* using online handwriting measures (e.g., writing duration, writing velocity, strokes and number of inversions in velocity (NIV)). In particular, NIVs which describe the number of velocity peaks during handwriting are directly related to the level of handwriting automaticity. In general, we found differences between writing on paper compared to the tablet. These differences were partly task-dependent. The comparison between tablet and paper revealed a faster writing velocity for all groups and all tasks on the tablet which indicates that all participants—even the experienced writers—were influenced by the lower friction of the tablet surface. Our results for the group-comparison show advancing levels in handwriting automaticity from preschoolers

Scanprüfungen: der Corona Prüfungs-Hotfix

Mit iOS und Android Bordmitteln möglich

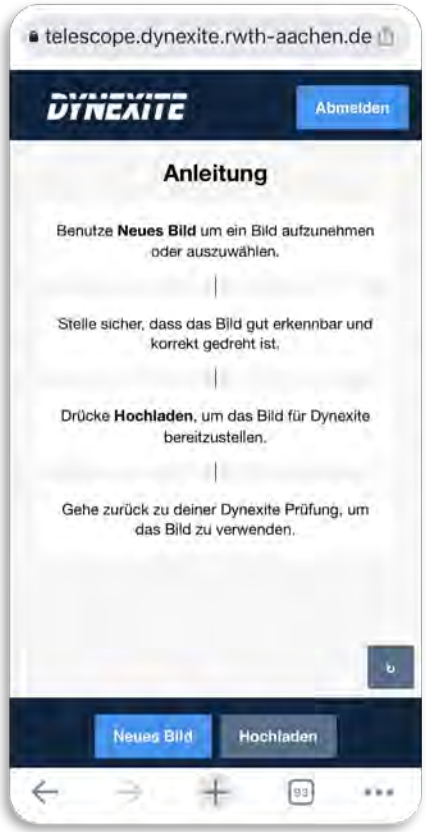
Nicht ohne Schulung der Studierenden

Unkalkulierbare Upload-Formate (Größen, Dateitypen)



Bildzitat: https://sandagogy.co.uk/scanning-paper-documents-to-pdf/

1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DYNEXITE
Abmelden
Anleitung
Benutze **Neues Bild** um ein Bild aufzunehmen oder auszuwählen.
Stelle sicher, dass das Bild gut erkennbar und korrekt gedreht ist.
Drücke **Hochladen**, um das Bild für Dynexite bereitzustellen.
Gehe zurück zu deiner Dynexite Prüfung, um das Bild zu verwenden.
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Hochladen

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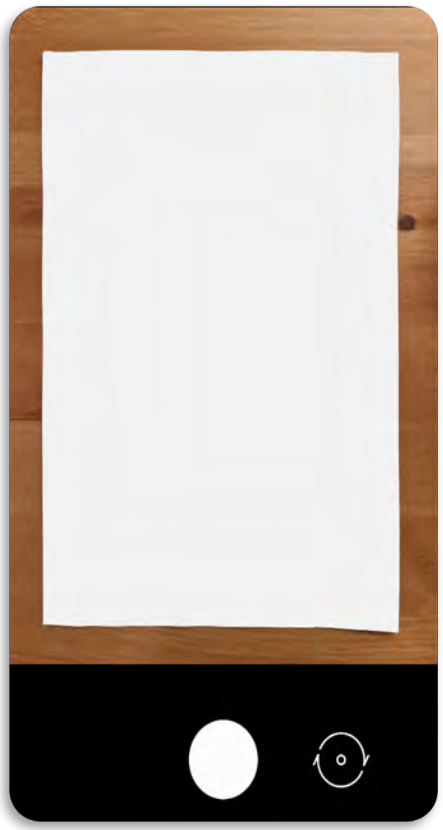

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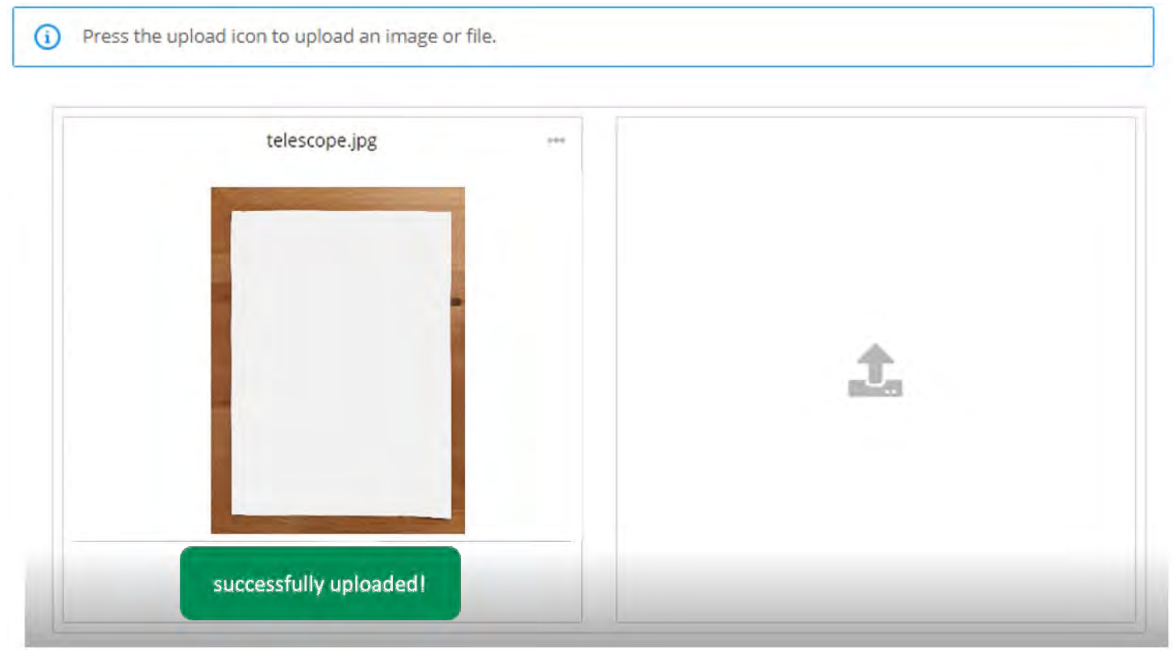
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telescope.jpg
successfully uploaded!

C4, C5

Chrome Datei Bearbeiten Anzeigen Verlauf Lesezeichen Personen Tab Fenster Hilfe

Dynexite | Dynexite

Nicht sicher | learner.demo.dynexite.rwth-aachen.de/attempts/bumi44smjoa5drq7pf7g/exec

DYNEXITE

in 7 Tagen

Nächste Aufgabe →

Aufgabe 1 **6 Punkte**

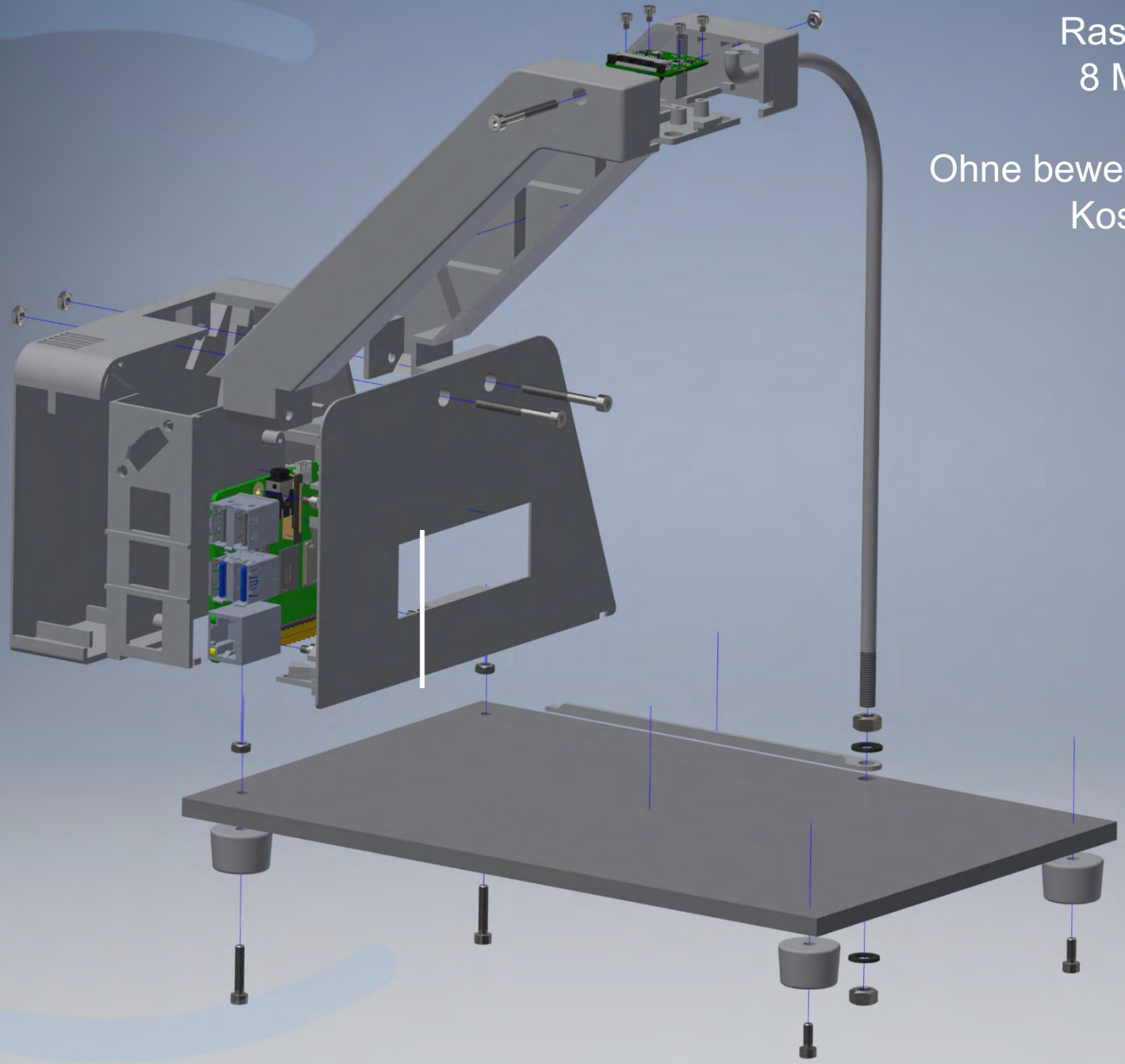
Zeichnen Sie qualitativ den Temperaturverlauf nach dem ISA-Modell in Abhängigkeit der Höhe (von $z = 0\,km$ bis $z = 30\,km$). Kennzeichnen Sie die einzelnen Bereiche durch Angabe der zugehörigen Höhen und benennen Sie diese. Geben Sie zudem die zugehörigen Temperaturgradienten (in $\frac{K}{km}$) an.

6 Punkte

Nächste Aufgabe →

ÜBERSICHT 1 2 3 ABGABE

A4 Scanfläche
Raspberry Pi 4
8 MP Kamera
Robust
Ohne bewegliche Teile
Kostengünstig



4 Anforderungsdimensionen digitalen Prüfens

didaktisch/
psychometrisch

rechtlich

technisch

logistisch/
organisatorisch

Diagnostische Gütekriterien von Prüfungen sollen unverändert bleiben

Repräsentativität: Bildet eine Prüfung ihren Gegenstand umfassend ab?

Validität: Wie gut misst eine Prüfung das, was sie messen soll?

Reliabilität: Wie zuverlässig misst eine Prüfung das, was sie misst?

Objektivität: Kommen verschiedene Prüfende bei derselben Leistung zum gleichen Ergebnis?

Ökonomie: Wie effizient misst eine Prüfung das, was sie misst?

Transparenz:: Haben alle Beteiligten Einblick in den Prüfungsprozess?

Agenda

Infopoint Hochschullehre: Digitale Prüfungen

10:00 – 11:50	● Begrüßung, Einführung STiL & HFD, Vorstellungsrunde
	● Begriffsbestimmung und Ordnungsrahmen
	● E-Prüfungen
	  ○ Systeme und Infrastruktur (+ BYOD)
	  ○ Kompetenzorientierung in E-Prüfungssystemen
	  ○ Schnittstellen zu Prüfungsportfolios und Scanklausuren
	  ○ Psychometrie

11:50 – 12:10	Kurze Pause

12:10 – 13:50	● Fernprüfungen und Take-Home Prüfungen
	  ○ Varianten und empirische Evidenz
	  ○ Leit(d)thema Täuschungskontrolle
	● Offene Prüfungsformate
	● Perspektiven für Digitale Prüfungen

13:50 – 14:00	Take-Home, Abschluss

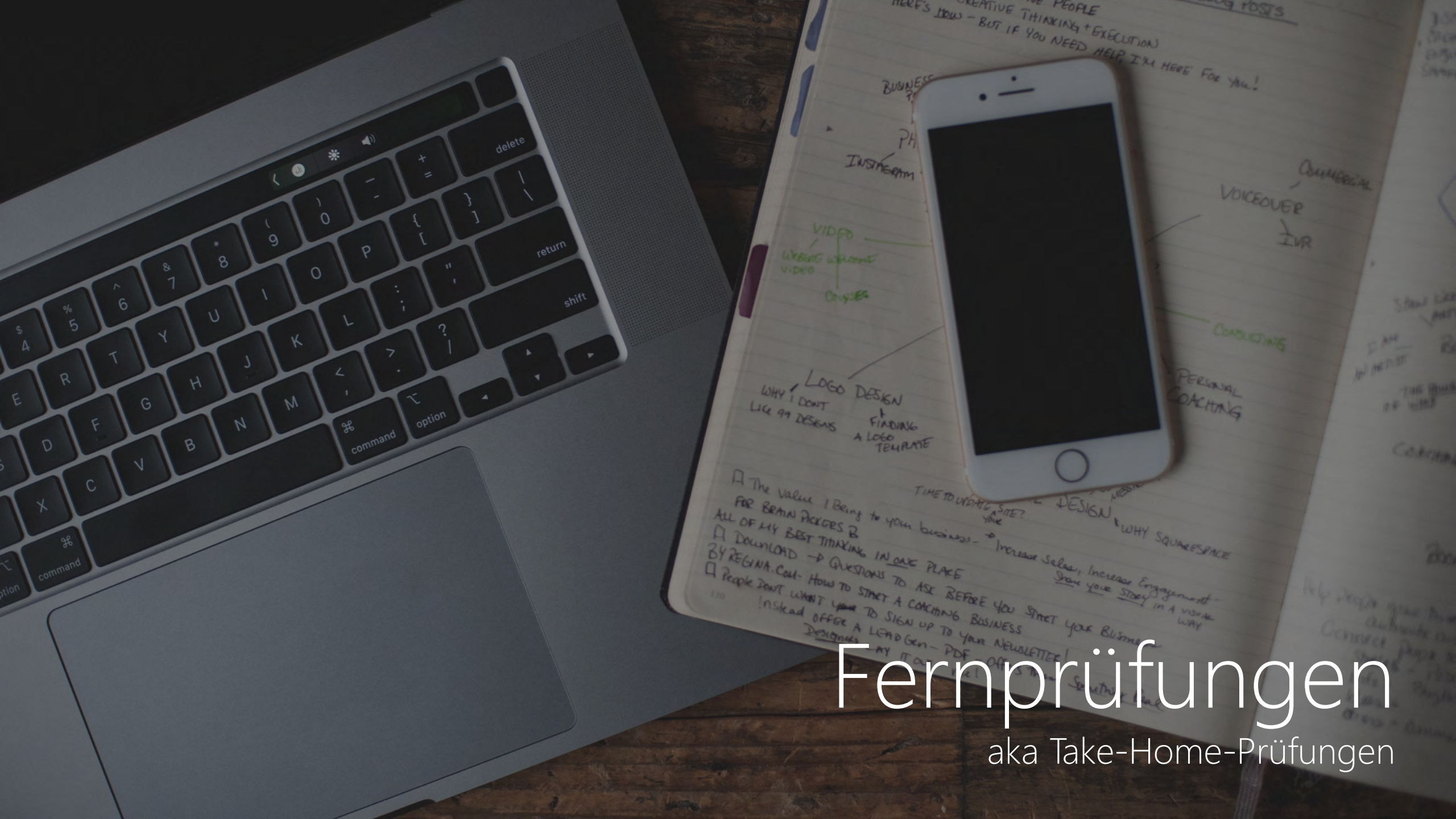
Heißgetränkeauszeit

bis 12:15 Uhr

CLS Center für Lehr- und Lernservices

RWTH AACHEN UNIVERSITY

CC BY SA



Fernprüfungen

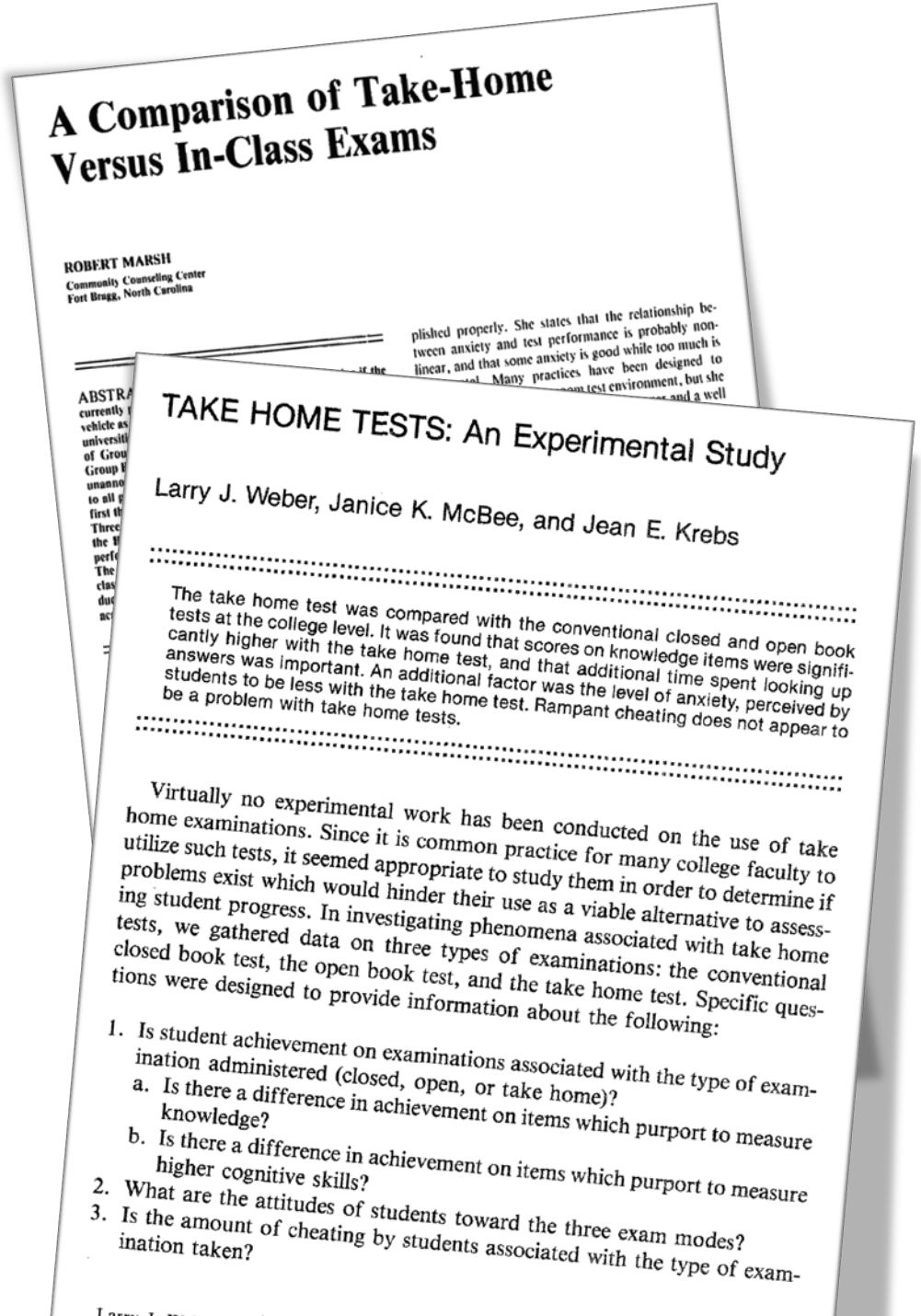
aka Take-Home-Prüfungen

Varianten und ein not-so-good practice Beispiel

Vorbereitungsintensität ist niedriger für Take-Home-Prüfungen

Leistungszeit und Leistungen in Take-Home-Exams sind höher

Studierende zeigen bessere Leistungen in Kontrollprüfungen bei überwachten als bei nicht-überwachten Prüfungen



A Comparison of Take-Home Versus In-Class Exams

ROBERT MARSH
Community Counseling Center
Fort Bragg, North Carolina

TAKE HOME TESTS: An Experimental Study

Larry J. Weber, Janice K. McBee, and Jean E. Krebs

The take home test was compared with the conventional closed and open book tests at the college level. It was found that scores on knowledge items were significantly higher with the take home test, and that additional time spent looking up answers was important. An additional factor was the level of anxiety, perceived by students to be less with the take home test. Rampant cheating does not appear to be a problem with take home tests.

Virtually no experimental work has been conducted on the use of take home examinations. Since it is common practice for many college faculty to utilize such tests, it seemed appropriate to study them in order to determine if problems exist which would hinder their use as a viable alternative to assessing student progress. In investigating phenomena associated with take home tests, we gathered data on three types of examinations: the conventional closed book test, the open book test, and the take home test. Specific questions were designed to provide information about the following:

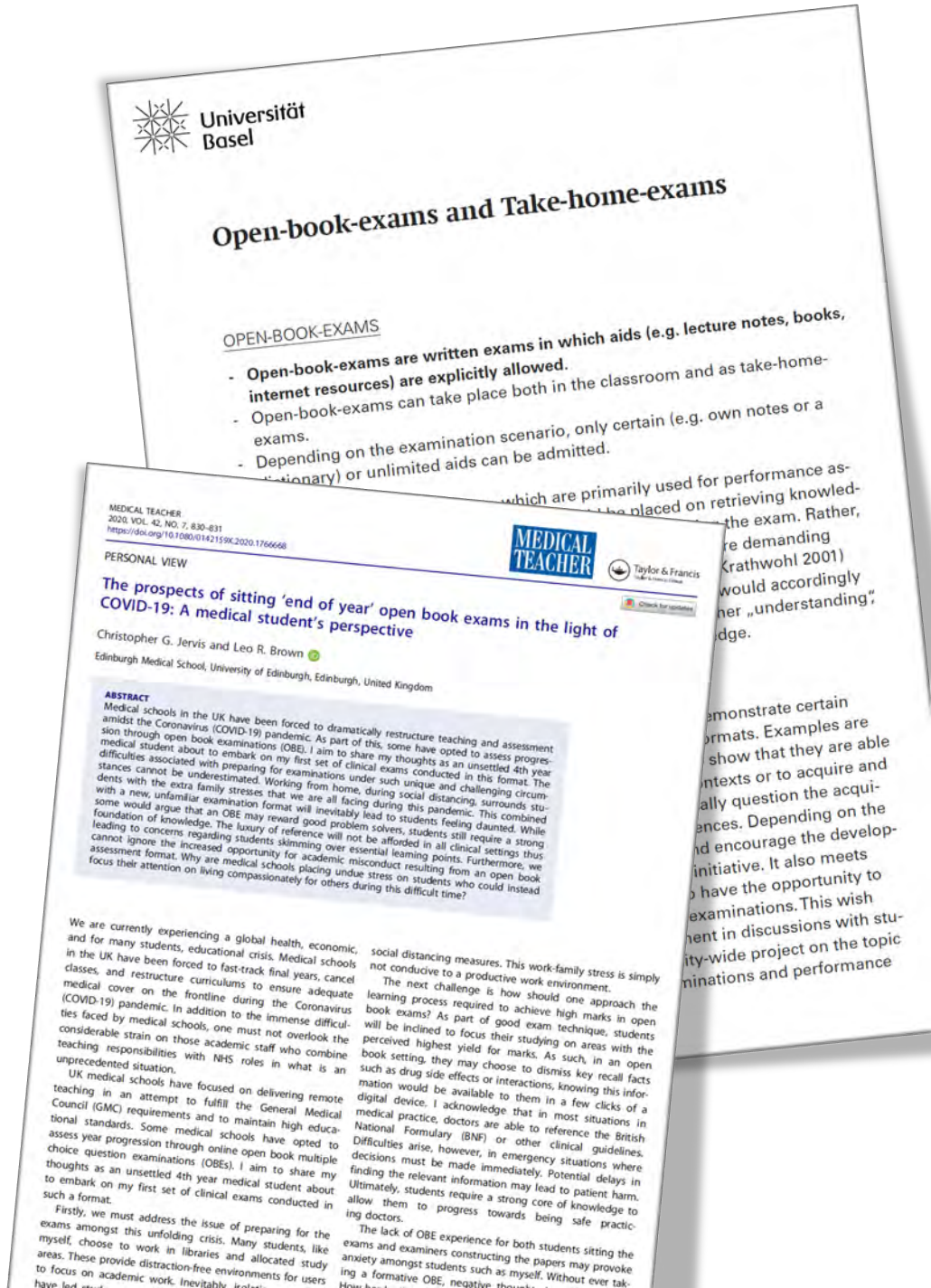
1. Is student achievement on examinations associated with the type of examination administered (closed, open, or take home)?
   a. Is there a difference in achievement on items which purport to measure knowledge?
   b. Is there a difference in achievement on items which purport to measure higher cognitive skills?
2. What are the attitudes of students toward the three exam modes?
3. Is the amount of cheating by students associated with the type of examination taken?

Erheblich höherer Aufwand bei der Erstellung von Auf-gaben für Take-Home-Exams

Sorgfältige Wahl des Zeitrahmens notwendig

Kritische Bewertung durch Studierende

Nutzen von Ehrenerklärungen?



Universität Basel

Open-book-exams and Take-home-exams

OPEN-BOOK-EXAMS

- **Open-book-exams are written exams in which aids (e.g. lecture notes, books, internet resources) are explicitly allowed.**
- Open-book-exams can take place both in the classroom and as take-home-exams.
- Depending on the examination scenario, only certain (e.g. own notes or a ...tionary) or unlimited aids can be admitted.

...which are primarily used for performance as- ...placed on retrieving knowled- ...the exam. Rather, ...re demanding ...Krathwohl 2001) ...would accordingly ...her „understanding", ...dge.

...emonstrate certain ...rmats. Examples are ...show that they are able ...ntexts or to acquire and ...ally question the acqui- ...ences. Depending on the ...nd encourage the develop- ...initiative. It also meets ...have the opportunity to ...examinations. This wish ...ent in discussions with stu- ...ity-wide project on the topic ...minations and performance

MEDICAL TEACHER
2020, VOL. 42, NO. 7, 830–831
https://doi.org/10.1080/0142159X.2020.1766668

MEDICAL TEACHER — Taylor & Francis

PERSONAL VIEW

The prospects of sitting 'end of year' open book exams in the light of COVID-19: A medical student's perspective

Christopher G. Jervis and Leo R. Brown

Edinburgh Medical School, University of Edinburgh, Edinburgh, United Kingdom

ABSTRACT

Medical schools in the UK have been forced to dramatically restructure teaching and assessment amidst the Coronavirus (COVID-19) pandemic. As part of this, some have opted to assess progression through open book examinations (OBE). I aim to share my thoughts as an unsettled 4th year medical student about to embark on my first set of clinical exams conducted in this format. The difficulties associated with preparing for examinations under such unique and challenging circumstances cannot be underestimated. Working from home, during social distancing, surrounds students with the extra family stresses that we are all facing during this pandemic. This combined with a new, unfamiliar examination format will inevitably lead to students feeling daunted. While some would argue that an OBE may reward good problem solvers, students still require a strong foundation of knowledge. The luxury of reference will not be afforded in all clinical settings thus leading to concerns regarding students skimming over essential learning points. Furthermore, we cannot ignore the increased opportunity for academic misconduct resulting from an open book assessment format. Why are medical schools placing undue stress on students who could instead focus their attention on living compassionately for others during this difficult time?

We are currently experiencing a global health, economic, and for many students, educational crisis. Medical schools in the UK have been forced to fast-track final years, cancel classes, and restructure curriculums to ensure adequate medical cover on the frontline during the Coronavirus (COVID-19) pandemic. In addition to the immense difficulties faced by medical schools, one must not overlook the considerable strain on those academic staff who combine teaching responsibilities with NHS roles in what is an unprecedented situation.

UK medical schools have focused on delivering remote teaching in an attempt to fulfill the General Medical Council (GMC) requirements and to maintain high educational standards. Some medical schools have opted to assess year progression through online open book multiple choice question examinations (OBEs). I aim to share my thoughts as an unsettled 4th year medical student about to embark on my first set of clinical exams conducted in such a format.

Firstly, we must address the issue of preparing for the exams amongst this unfolding crisis. Many students, like myself, choose to work in libraries and allocated study areas. These provide distraction-free environments for users to focus on academic work. Inevitably, isolating social distancing measures. This work-family stress is simply not conducive to a productive work environment.

The next challenge is how should one approach the learning process required to achieve high marks in open book exams? As part of good exam technique, students will be inclined to focus their studying on areas with the perceived highest yield for marks. As such, in an open book setting, they may choose to dismiss key recall facts such as drug side effects or interactions, knowing this information would be available to them in a few clicks of a digital device. I acknowledge that in most situations in medical practice, doctors are able to reference the British National Formulary (BNF) or other clinical guidelines. Difficulties arise, however, in emergency situations where decisions must be made immediately. Potential delays in finding the relevant information may lead to patient harm. Ultimately, students require a strong core of knowledge to allow them to progress towards being safe practicing doctors.

The lack of OBE experience for both students sitting the exams and examiners constructing the papers may provoke anxiety amongst students such as myself. Without ever taking a formative OBE, negative thoughts

"students' aberrant behaviors such as cheating still presents the biggest challenge to the instructors who intend to implement take-home testing."

Tao & Li, 2012

Tao, J., & Li, Z. (2012). A case study on computerized take-home testing: Benefits and pitfalls. *International Journal of Technology in Teaching and Learning*, *8*(1), 33-43.

A Case Study on Computerized Take-Home Testing: Benefits and Pitfalls

Jinyuan Tao
Florida Hospital College of Health Sciences
Zhigang Li
University of Central Florida

This paper explores the benefits and pitfalls of computerized take-home testing in an undergraduate curriculum. A case study of how health science course "nutrition" utilized computerized take-home testing is presented. A survey was conducted after the implementation of computerized take-home testing program. After detailed data analysis on students' feedback, advantages and disadvantages of computerized take-home testing are discussed. It is concluded that the biggest advantage of computerized take-home tests is the convenience it brings to both instructors and students, however students' aberrant behaviors such as cheating still presents the biggest challenge to the instructors who intend to implement take-home testing.

Keywords: computerized take-home testing, cheating, advantage, disadvantage, undergraduate curriculum, health science

INTRODUCTION

Since testing consumes such a large amount of instructor and student time in college level courses, it is important to learn as much as possible about the effects of different testing formats (computerized or paper-and-pencil, in-class or take-home) on learning. Computerized testing has become a reality on many campuses with the introduction of robust learning management systems (LMS) such as Blackboard Learn, Moodle, Instructure Canvas and others. Instructors have two options of delivering computerized testing: (a) each student takes the computerized exam in the classroom with the instructor as the proctor; (b) the instructor implements computerized take-home exams. The first option is executable if every student brings his or her laptop to the classroom or the exam has to be administered in a computer lab. The advantage is that the instructor is right there to answer questions and proctors during the test, which makes it highly secure. In the meantime, the instructor can fully enjoy the benefits of computerized testing such as reduced cost of delivery, improved efficiency of administration, and immediate scoring

Jinyuan (David) Tao is the Assistant Director for Center for Educational Technology at the Florida Hospital College of Health Sciences. Zhigang Li received a PhD degree from University of Central Florida. Jinyuan Tao can be reached at david.tao@fhchs.edu.

The Philadelphia Inquirer

SIGN IN / SIGN UP

Education

Cheating scandal at Duke grows

Woes at business school go beyond one exam.

by By Martha Waggoner, Associated Press, Inquirer
Published May 2, 2007

The Mercury News

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NEWS CALIFORNIA NEWS

Stanford University looks into allegations of cheating by students

By TRACY SEIPEL | Bay Area News Group
PUBLISHED: March 27, 2015 at 7:22 a.m. | UPDATED: August 12, 2016 at 3:25 a.m.

STANFORD — Stanford University is investigating allegations of academic cheating by students during the winter quarter.

The Sydney Morning Herald

National NSW Education

MyMaster essay cheating scandal: More than 70 university students face suspension

EXCLUSIVE:

Two university students have been expelled and a further 70 are facing severe penalties, including expulsion, from five of NSW's most prestigious universities after being identified in connection with a widespread cheating scandal centred around an online essay writing company.

Süddeutsche Zeitung

SZ.de Zeitung Magazin

Coronavirus Politik Wirtschaft Meinung Panorama Sport München Bayern

Home > Bayern > Bayern + Bildung in Bayern > Hochschule Neu-Ulm: Studierende betrügen im Hom...

21. September 2020, 18:56 Uhr Hochschule Neu-Ulm

Studierende schreiben im Homeoffice ab und fallen durch

Dass ihre Prüfung zuhause stattfand, sollen 35 Studenten genutzt haben, um zu betrügen. Manchen droht nun sogar die Exmatrikulation.

Posted by u/MrZer 1 year ago

387

Do profs know that students cheat on take-home exams?

Most classes have multiple choice question tests and they're generally given through our online service (blackboard, moodle, canvas, etc. I'm mentionning this b/c if it was a normal online exam there are anti-cheat measures) But my prof has a complicated test with a lot of diagrams and drawings that students have to complete so they gave us a printed out exam for us to take home. Prof says it's supposed to be closed note but realistically nobody actually listens. I don't know anybody in my class so i won't copy other people's stuff, but I can't help but wonder if they're aware that we'll use our notes and the internet.

74 Comments Share Save Hide Report 98% Upvoted

SORT BY BEST

navahan 513 points · 1 year ago

Yes, they are very aware. Despite this, whether you know the material or not will become very evident as you take higher-level courses where a foundation is essential. So, it is always in your best interest to at least try without notes. Of course, it'd be foolish to not take advantage, but I would use the take-home test as a measurement of your understanding in the field. And one that

The take-home lesson from the Harvard cheating scandal

Posted on February 3, 2013 by Adriana Salerno

Last Friday, Reuters reported that more than half of the students involved in last year's cheating scandal at Harvard have been suspended. This was even labeled "the largest academic scandal to hit the Ivy League school in recent memory". In this post, I wanted to discuss my own thoughts on the matter, and more importantly on the general idea of giving take-home exams in a mathematics class.

Täuschungsmethoden in der Praxis

a) Nutzung unerlaubter Materialien

b) Verabredete Kollaboration

c) Seltener technische Maßnahmen („Hacking“)

ITiCSE '17, July 3-5, 2017, Bologna, Italy

Session 6A: Academic Integrity

Plagiarism in Take-home Exams: Help-seeking, Collaboration, and Systematic Cheating

Arto Hellas, University of Helsinki, Department of Computer Science, Helsinki, Finland, arto.hellas@cs.helsinki.fi

Juho Leinonen, University of Helsinki, Department of Computer Science, Helsinki, Finland, juho.leinonen@helsinki.fi

Petri Ihantola, Tampere University of Technology, Department of Pervasive Computing, Tampere, Finland, petri.ihantola@tut.fi

ABSTRACT

Due to the increased enrollments in Computer Science education programs, institutions have sought ways to automate and streamline parts of

education. As a downside of this online learning movement, academic dishonesty such as plagiarism has become easier and even more common [11].

Merriam-Webster online dictionary defines **plagiarism** as *an act of copying the ideas or words of another person without giving credit to that person* [15]. This is a significant problem especially in computing education [5, 6], where students actually see copying and pasting source code somehow more acceptable than doing the

DECISION SCIENCES JOURNAL OF INNOVATIVE EDUCATION

Decision Sciences Journal of Innovative Education
Volume 15 Number 4
October 2017

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EMPIRICAL RESEARCH

A Conceptual Framework for Detecting Cheating in Online and Take-Home Exams

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Denise V. Siegfeldt
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ABSTRACT

Selecting the right methodology to use for detecting cheating in online exams requires considerable time and effort due to a wide variety of scholarly publications on academic dishonesty in online education. This article offers a cheating detection framework that can serve as a guideline for conducting cheating studies. The necessary theories and related statistical models are arranged into three phases/sections within the framework to allow cheating studies to be completed in a sufficiently quick and precise manner. This cheating detection framework includes commonly used models in each phase and addresses the collection and analysis of the needed data. The model's level of complexity ascends progressively from a graphical representation of data and descriptive statistical models to more advanced inferential statistics, correlation analysis, regression analysis, and the optional comparison method and the Goldfeld-Quandt Test for heteroskedasticity. An instructor receiving positive results on the possibility of cheating in Phases 1 or 2 can avoid using more advanced models in Phase 3. Tests conducted on sample courses showed that models in Phases 1 and 2 of the proposed framework provided results effectively for over 70% of the test groups, saving users further time and effort. High-tech systems and low-cost recommendations that can mitigate cheating are discussed. This framework will be beneficial in guiding instructors who are converting from the traditionally proctored in-class exam to a take-home or online exam without authentication or proctoring. In addition, it can serve as a powerful deterrent that will alleviate the concerns that an institution's stakeholders might have about the reliability of their programs.

Subject Areas: Cheating Detection, D
scriptive and Infe

“there is still a lot of research missing concerning take-home exams in higher education and some of this research may be urgent”

Bengtsson, 2019

education sciences

MDPI

Review

Take-Home Exams in Higher Education: A Systematic Review

Lars Bengtsson

Physics Department, University of Gothenburg, SE-405 30 Gothenburg, Sweden; lars.bengtsson@physics.gu.se

Received: 19 September 2019; Accepted: 1 November 2019; Published: 6 November 2019

check for updates

Abstract: This work describes a systematic review of the research on take-home exams in tertiary education. It was found that there is some disagreement in the community about the virtues of take-home exams but also a lot of agreement. It is concluded that take-home exams may be the preferred choice of assessment method on the higher taxonomy levels because they promote higher-order thinking skills and allow time for reflection. They are also more consonant with constructive alignment theories and turn the assessment into a learning activity. Due to the obvious risk of unethical student behavior, take-home exams are not recommended on the lowest taxonomy level. It is concluded that there is still a lot of research missing concerning take-home exams in higher education and some of this research may be urgent due to the emergence of massive online open courses (MOOCs) and online universities where non-proctored exams prevail.

Keywords: take-home exam; in-class exam; higher-order cognitive skills; unethical student behavior

1. Introduction

Assessment is a necessary part of academic studies on all levels. With few exceptions, an in-class, closed-book, invigilated pen-and-paper exam is the traditional assessment method [1]. There are certainly other assessment methods in use, but the main assessment method at prominent universities is still a proctored, in-class exam (ICE). ICEs are typically characterized by hard time limits (2–6 h) and the stress this imposes on the students. The main reason for advocating ICEs seems to be that it minimizes the risks of the exam being compromised by unethical student behavior [1,2], but it has been criticized for several reasons: it deludes students to superficial learning [1], it does not promote students' 'generic skills' [3], it imposes an unnatural pressure on the students that has an adverse impact on their performance [4], it is not consonant with the prevailing theory of 'constructive alignment' in higher education [1,5,6] and it is not suitable for assessing students' performance on the higher levels of Bloom's taxonomy scale [7–9]. Bloom's taxonomy scale [9] is a hierarchical description of students' learning (revised by Anderson et al. in 2001 [7]). This taxonomy comprises all learning domains (cognitive, affective and sensory), but in this context (as in most higher education contexts) we are only considering the cognitive domain. At the lowest level, students' learning is characterized by root learning ('remember'). The succeeding levels are 'understanding', 'applying', 'analyzing', 'evaluating' and 'creating'; students move from root learners to true scholars where they create knew knowledge. The idea of Bloom's taxonomy is that it describes what phases learning undergoes and as teachers, it is paramount to understand on what level the present students are since this has direct consequences for the curriculum (objectives and activities), but, most of all, it has direct consequences for the design of the exam. An in-class, multiple-choice test (MCQ) may be justified on the lowest levels, but may not be appropriate on the highest levels; the higher levels require that students can define problems, predict, hypothesize, experiment, analyze, conclude and are capable of reflective thinking [10] and they also indicate an "intrinsic creativity or an ability to express ideas in their own

Open Discussion:
Fernprüfungen als Zukunftsmodell?

https://miro.com/app/board/o9J_lvUsWng=/

Täuschungskontrolle

Technologische Aufrüstung für ein altes Phänomen

Täuschungskontrolle

Täuschungsvermeidung:
Maßnahmen zur Erschwerung von Täuschungen *vor* einer Prüfung.

Täuschungsüberwachung:
Maßnahmen zur Beobachtung von Täuschungen *während* einer Prüfung.

Täuschungsaufdeckung:
Maßnahmen zum Nachweis von Täuschungen *nach* einer Prüfung.

Analyse von Täuschungsszenarien

Anwendungskontext
(Präsenz oder Distanz)

Prüfungsform
(mündlich oder schriftlich)

Aufwand für Studierende
(Niedrig, mittel, hoch)

Kontrollmöglichkeiten

Sicherstellungsmöglichkeiten

https://t1p.de/pq8o

Täuschungsversuche ohne Beteiligung Dritter

Unerlaubte analoge Materialien (Spickzettel, manipulierte Unterlagen)

Täuschung während einer Pause

Digitale Einblendungen (Haupt-Zweitbildschirm, anderes Endgerät)

Simulation der Bearbeitung durch Video

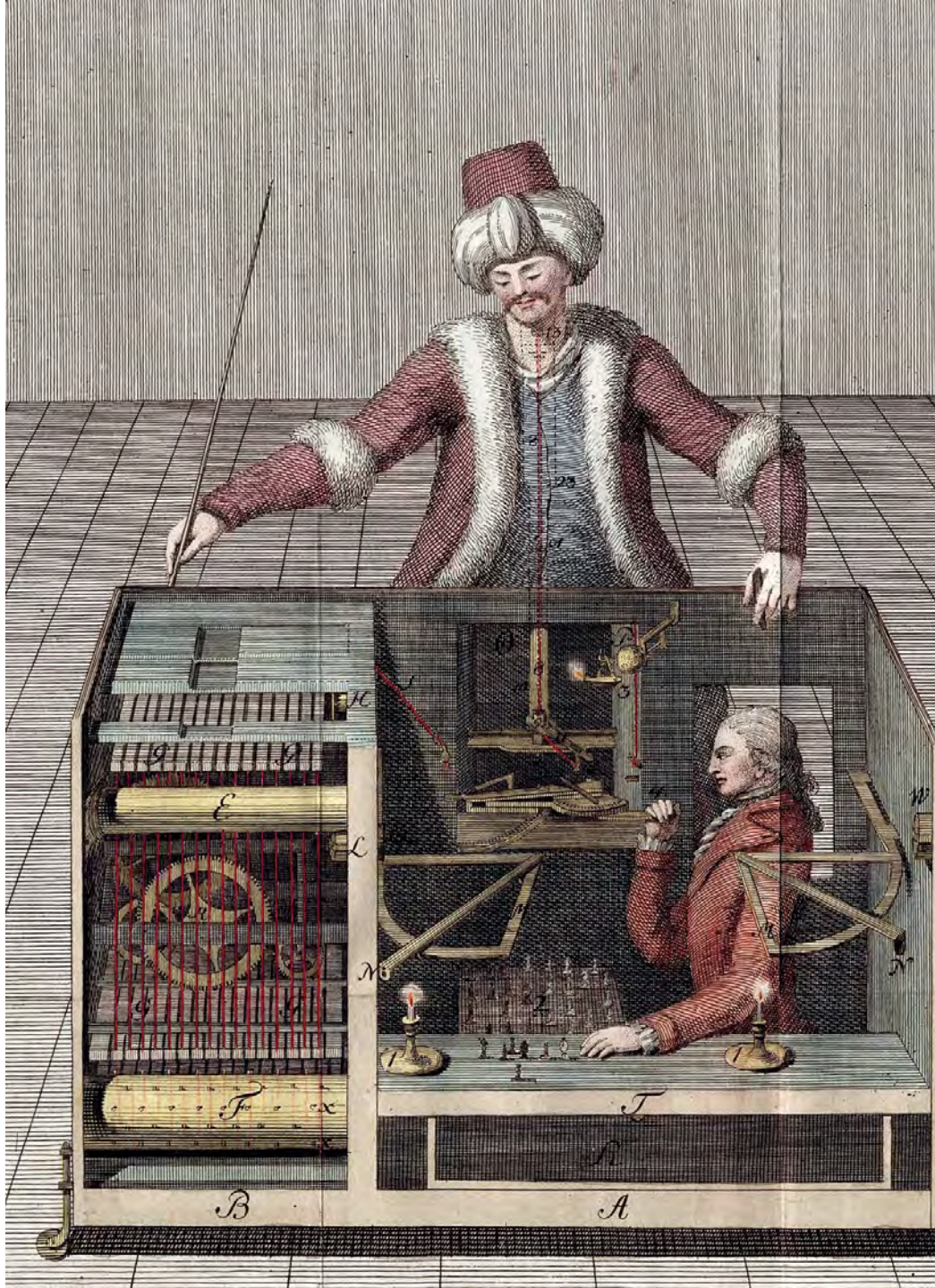
Täuschungsversuche mit Beteiligung Dritter

Kopieren der Lösungen (Messenger)

Dritte im Raum oder akustisch zugeschaltet

Übertragung und/oder Fernsteuerung des PC („Schachtürke“)

Ersetzen der digitalen Prüfungsdatei



Täuschungsmöglichkeiten

Online Proctoring ist ortsunabhängiges digitales Assessment. Die Teilnahme an Prüfungen findet online mithilfe spezieller Software statt, die Täuschungen verhindern soll. Die Software ermöglicht dazu Aufzeichnungen in verschiedenster Form (z.B. Bildschirmfotos, Video, Audio, Clickstream).

Level 0: Videokonferenzen mit bis zu 50 Studierenden, keine Aufzeichnung.

Level 1: Proctoring mit dezidierter Software, 1 Kamera, Website-Logging, ggf. Aufzeichnung.

Level 2: Proctoring mit 1 Kamera, Website- und Application-Logging plus Computer Lock-Down, ggf. Aufzeichnung.

Level 3: Proctoring mit 2 Kameras, vollständigem Aktivitäts-Logging plus Computer Lock-Down, ggf. Aufzeichnung.

IMPORTANCE

RISK	Low	Medium	High	Very High
Low				
Medium				
High				

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EDUCATIONAL AND PSYCHOLOGICAL MEASUREMENT
Vol. XXI, No. 3, 1961

AN EVALUATION OF COLLEGE STUDENTS' REACTIONS TO OPEN BOOK EXAMINATIONS

JOHN F. FELDHUSEN
Wisconsin State College

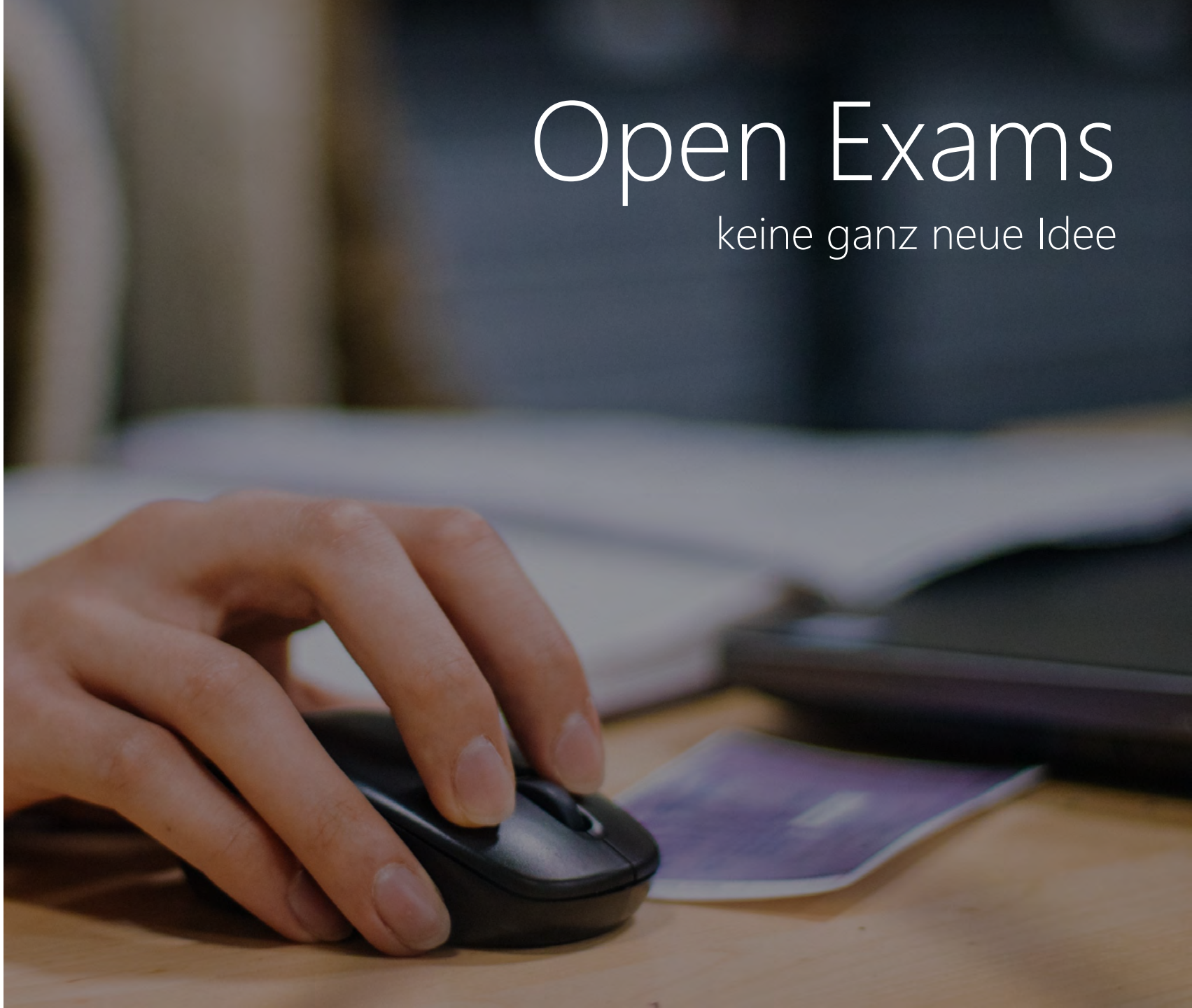
TEACHERS at all levels continue to show some interest in the open-book examination as a measurement technique which may offer solutions to problems associated with closed-book testing. Tussing's (1951) general discussion of the open-book test presents highly optimistic conclusions concerning the advantages of an open-book examination. He suggests that fear and emotional blocks are removed, cheating is eliminated, and the test can be constructed in any of the traditional test forms. Kalish's (1958) more recent experimental report on the open-book examination concluded that the opportunity to use the text and lecture notes afforded no advantage in test error reduction. However, he also concluded that the open-book examination measures different abilities from the closed-book examination. He concluded, finally, that student ratings of the value of the open-book examination will not be related to their examination scores.

Problem

The present study is concerned with college students' reactions to the open-book and the closed-book examination on both objective and essay tests. The subjects in the study were all candidates for teaching certificates, and thus the present study was further concerned with the subjects' perception of the two testing procedures in relation to their own future teaching practices.

Method

Subjects. The subjects, 76 per cent women, 24 per cent men, were 90 students at the University of Wisconsin enrolled in three sec-



Closed Book Exams (CBE)

Cheat Sheet Exams (CSE)

Open Book Exams (OBE)

Open Web Exams (OWE)

§§ Prüfende haben weitreichende Gestaltungsmöglichkeiten bei der Auslegung der verschiedenen Durchführungsformate, sind aber ggf. durch Vorgaben der Prüfungsordnung limitiert.

Standardisierte Hilfsmittel	Individuelle Hilfsmittel	Interaktive Hilfsmittel
Vorlesungsskript	Cheat-Sheet mit wichtigsten Informationen auf kleinem Raum	Durchsuchbare Datenbanken, passive (!) Nutzung von Foren
Digitale Kursunterlagen	Persönliche Kursnotizen	Online-Programme zur Berechnung komplexer Aufgaben
Formelsammlungen	Individuell vorbereitete Fallbeispiele	auf dem (ggf. studentischen) Rechner installierte Programme zur Berechnung

THE SAMR MODEL

Dr. Ruben R. Puentedura

S — **SUBSTITUTION**
Technology acts as a direct substitute, with no functional change

A — **AUGMENTATION**
Technology acts as a direct substitute, with functional improvement

ENHANCEMENT

M — **MODIFICATION**
Technology allows for significant task redesign

R — **REDEFINITION**
Technology allows for the creation of new tasks, previously inconceivable

TRANSFORMATION

Erwartungen

Aufgaben auf höheren Kompetenzebenen

Nutzung von Parametrisierungen

Authentischere Prüfungen

Constructive Alignment

20.11.2020 Kompetenzorientierte individualisierte Hochschulklausuren und deren prüfungsrechtliche Einordnung — eleed

Kompetenzorientierte individualisierte Hochschulklausuren und deren prüfungsrechtliche Einordnung

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urn:nbn:de:0009-5-51197

Zusammenfassung

Schriftliche Klausuren sind für Studierende von hoher Relevanz, da ein erfolgreicher Hochschulabschluss und der damit verbundene Zugang zum Arbeitsmarkt von den Klausurergebnissen abhängen. Dieser hohen Relevanz werden typische Hochschulklausuren aus wissenschaftlicher Sicht jedoch nicht gerecht. Es werden vier zent Herausforderungen bei der Weiterentwicklung von Hochschulklausuren beschrieben und spezifi Basis einer zielgerichteten neuartigen Kombination von Methoden, Qualit Psychometrie und der pädagogisch-psychologischen Diagnostik zu Konstruktion, Administration und Auswertung von nutzbar. Es wird prüfungsrechtlich Implementation im hoch

https://eleed.ca

Ein mögliches Online-Take-Home-Prüfungsformat für die Grundlagen der Elektrotechnik

Veröffentlicht am Januar 20, 2021 von mathiasmagdowiki

Da mit den aktuellen Informationen der Otto-von-Guericke-Universität Magdebur Prüfungsphase im Wintersemester 2020/21 (unbeaufsichtigte) Online-Klausuren a alternative Prüfungsform nicht ausgeschlossen werden, sind Open-Book- bzw. Ta Home-Exams eine der möglichen Ideen.

Als eventuelle Anregung für andere Prüfungen ist hier mal meine Prüfungsidee zweisemestrige Modul „Grundlagen der Elektrotechnik I und II" an der Fakultä Elektro- und Informationstechnik aus inhaltlicher, fachlicher und didaktischer rechtlichen sowie datenschutzrechtlichen Rahmen kann und möchte ich an d nicht erörtern. Aus meiner Sicht wäre folgende Vorgehensweise und Kommu gegenüber den Studierenden denkbar:

*Die für Donnerstag, den 18.02.2021 im Zeitraum von 14 Uhr bis 17 Uhr geplante P Lehrveranstaltung „Grundlagen der Elektrotechnik 1, 2" (US 800011) wird als Op Open-Book-Klausur durchgeführt. Für Sie als Student*in bedeutet dies, dass Sie d zuhause aus und damit entsprechend ohne Aufsicht teilnehmen.*

Vor der Prüfung melden Sie sich wie üblich im LSF bzw. über das Prüfungsamt Voraussetzung dafür ist der Übungsschein.

Tobias HALBHERR[1], Nora DITTMANN-DOMENICHINI, Thomas PIENDL & Claudia SCHLIENGER (Zürich)

Authentische, kompetenzorientierte Online-Prüfungen an der ETH Zürich

Zusammenfassung

Dieser Artikel erörtert Möglichkeiten der Gestaltung authentischer, kompetenzorientierter Online-Prüfungen jenseits bisher etablierter Aufgabenformate. Es werden Lösungen für die Gestaltung von Prüfungsumgebungen vorgestellt, welche einen selektiven und gegen Betrug abgesicherten Zugriff auf Ressourcen wie Software, Dateien, Netzwerke oder Internet ermöglichen. Basierend auf einer Diskussion prüfungsdidaktischer Grundlagen und anhand von Beispielen aus der Praxis an der ETH Zürich wird dargelegt, wie die Verfügbarkeit solcher Ressourcen die unmittelbare und authentische Abbildung von Kompetenzen in Prüfungsaufgaben deutlich einfacht – oder überhaupt erst ermöglicht – und damit grundlegend neue Prüfungsgestaltung eröffnet.

Prüfungen,

Higher Education **32:** 347–364, 1996.
© 1996 *Kluwer Academic Publishers. Printed in the Netherlands.*

Enhancing teaching through constructive alignment

JOHN BIGGS
Department of Educational Psychology, Measurement, and Educational Technology, University of Sydney, NSW 2006, Australia

Abstract. Two lines of thinking are becoming increasingly important in higher education-al practice. The first derives from constructivist learning theory, and the second from the instructional design literature. Constructivism comprises a family of theories but all have in common the centrality of the learner's activities in creating meaning. These and related ideas have important implications for teaching and assessment. Instructional designers for their part have emphasised alignment between the objectives of a course or unit and the targets for assessing student performance. "Constructive alignment" represents a marriage of the two thrusts, constructivism being used as a framework to guide decision-making at all stages in instructional design: in deriving curriculum objectives in terms of performances that represent a suitably high cognitive level, in deciding teaching/learning activities judged to elicit those performances, and to assess and summatively report student performance. The "performances of understanding" nominated in the objectives are thus used to systematically align the teach-ing methods and the assessment. The process is illustrated with reference to a professional development unit in educational psychology for teachers, but the model may be generalized to most units or programs in higher education.

Thinking about teaching and learning

Teachers generally enact their teaching decisions in line with some kind of explicit or, more usually, implicit theory of teaching and learning (Argyris 1976, Ramsden 1992). Argyris (1976) distinguishes between espoused theo-ries, that are held to be those underlying professional practice, and theories-in-use, that guide practice in the event; professionalism requires the espoused theory to be the theory-in-use.

Espoused theories as they apply to higher education are broad, encompass-ing not only theories of teaching and learning, but also theories of the nature of knowledge. Two broad theoretical traditions can be distinguished. The first, *objectivist*, tradition is based on a dualism between knowledge exists independently of the

Oft verwendetes Mittel im Digitalen Semester

Initial wenig Erfahrung bei Studierenden mit OBE: Bucharbeit muss geübt werden

Eignung vor allem auf höheren Kompetenzeben

Didaktische Qualität der Klausuren steigt

Educational Review, Vol. 34, No. 1, 1982

A Case for Open-Book Examinations

JOHN FRANCIS, The Associated Examining Board, Aldershot

Educator's Corner

Open-Book Examinations for Assessing Higher Cognitive Abilities

Madhu S. Gupta

MEDICAL TEACHER

PERSONAL VIEW

Assessing open-book examination in medical education: The time is now

Ivry Zagury-Orly and Steven J. Durning

Tendenziell höhere Vorbereitungszeit/-qualität und Anwesenheit bei CBE

Unveränderte Lernstrategien

Eher bessere Prüfungs-leistungen bei CBE

Vergleichbare psychometrische Qualität

Review

Comparing Open-Book and Closed-Book Examinations: A Systematic Review

Steven J. Durning, MD, PhD, Ting Dong, PhD, Temple Ratcliffe, MD, Lambert Schuwirth, MD, PhD, Anthony R. Artino Jr, PhD, John R. Boulet, PhD, and Kevin Eva, PhD

Abstract

Purpose
To compare the relative utility of open-book examinations (OBEs) and closed-book examinations (CBEs) given the rapid expansion and accessibility of knowledge.

Method
A systematic review of peer-reviewed articles retrieved from MEDLINE, ERIC, Embase, and PsycINFO (through June 2013). In 2013–2014, articles that m inclusion criteria were reviewed by a least two investigators and coded f six outcome categories: (1) examin preparation, (2) test anxiety, (3) ex performance, (4) psychometrics a logistics, (5) testing effects, and (6) public perception.

Results
From 4,192 identified studies, 37 were included. The level of learner and subject studied varied. The frequency of each outcome category was as follows: (1) exam preparation (n = 20; 54%); (2) test anxiety (n = 14; 38%); (3) exam performance (n = 30; 81%); (4) psychometrics and (n = 4; 11%); (5) testing effects

appear to take longer to complete OBEs. Studies addressing examination performance favored CBE, particularly when preparation for CBE was greater than for OBE. Postexamination outcomes suggest little difference in testing effects or public perception.

Conclusions
Given the data available, there does not appear to be sufficient evidence for exclusively using CBE or OBE. As such, a combined approach could become a more significant part of testing

Today's health care professio students and trainees have acc to an unprecedented amount information thanks to the ra expansion of knowledge and emergence of information t This easy access to informa fundamental questions abo adequacy of closed-book e (CBE) practices common the health professions. So argue that any examinat must assess the examine find, understand, evalu external resources. Suc of the open-book exam argue that OBEs are n to real-world practice is not about "rote me

Please see the end of this about the authors.

Correspondence should about the authors. J. Durning, Department Services University of th Jones Bridge Rd., Bethe (301) 295-3603; e-ma

Acad Med. 2016;91 First published online doi: 10.1097/ACM.0

Supplemental digita available at http://

Academic Med

A Comparison of Take-Home Versus In-Class Exams

ROBERT MARSH
Community Counseling Center
Fort Bragg, North Carolina

ABSTRACT This study attempted to determine if the currently popular take-home exam was as effective a learning vehicle as is the traditional in-class exam. Ten classes from five universities were randomized into two equal groups. Members of Group A were given a take-home test and members of Group B were administered an in-class test. One week later, an unannounced test, accompanied by a questionnaire, was given to all participants. The latter, an objective test, measured the first three levels of Bloom's Hierarchy of Cognitive Learning. Three two-way analyses of variance (ANOVA) indicated that the B Group members attained significantly higher learning performances than did the A Group members, in all categories. The participants admitted that they studied harder for an in-class exam. The results suggested that the in-class exam produced a greater amount of study and learning in a college-level academic environment.

This study was an effort to determine whether the take-home test was as good or better as a vehicle for learning than the traditional in-class test. The results of this experiment are important because instructors are increasingly deleting the in-class test (Gay & Gallagher, 1976), and there seems to be no empirical basis for the belief that the take-home test is as effective. Thus, the current trend toward eliminating formal written tests may actually operate against one of education's major goals, student retention of learned concepts.

Probably the major concern over classroom exams is that they cause debilitating anxiety. However, research on this claim is inconsistent. For example, it has been demonstrated that in a test situation

plished properly. She states that the relationship between anxiety and test performance is probably non-linear, and that some anxiety is good while too much is detrimental. Many practices have been designed to dispel anxiety in the classroom test environment, but she points out that "the examiner's own manner and a well organized, smoothly running testing operation will contribute toward the same goal" (Anastasi, 1976). Although students experience differing levels of anxiety before exams, it is probably not a good idea to eliminate testing for that reason alone. Our aim should not be to completely avoid stress, which is not realistic in our world and would be impossible, but to learn how to recognize our typical response to stress and then try to adjust our coping styles accordingly (Selye, 1978).

There is a paucity of specific literature comparing take-home exams and in-class exams. There is evidence that oral and written testing are equally effective and that either method is better than no testing at all (Calhoun, 1962). Also, studies show that academic achievement of undergraduate students is lower under a pass/fail grading system than under the standard grading system (Bain, Hales, & Rand, 1973; Gold, Reilly, Silbeman, & Lehr, 1971).

In 1976, a study (Gay & Gallagher, 1976) was performed in which a large basic class of undergraduates was randomly divided into three sections. One section was given periodic take-home exercises, the second section was given periodic tests, and the third group was given a choice. It is interesting to note that no one in the third group elected to take tests. Except for these different treatments, all students were treated as equally

Kaum Unterschiede bei Stress und Prüfungsangst

Längere Bearbeitungsdauer in OBE/OWE (bei maximal gleichbleibenden Leistungen)

OWEs und OBEs trotzdem von Studierenden bevorzugt

The 'Power Test': its impact on student learning in a materials science course for engineering students

CAROLINE BAILLIE[1] & SUSAN TOOHEY[2], [1]*Department of Materials, Imperial College of Science Technology and Medicine, London, UK;* [2]*Professional Development Centre, University of New South Wales, Sydney, Australia*

ABSTRACT This paper ex
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discussed with reference to
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format final exam, with e
Student response was eval
nominal group technique
answers using the SOLO
with those of students tak

TAKE HOME TESTS: An Experimental Study

Larry J. Weber, Janice K. McBee, and Jean E. Krebs

The take home test was compared with the conventional closed and open book tests at the college level. It was found that scores on knowledge items were significantly higher with the take
e test, and that additional time spent looking up
onal factor was the level of anxiety, perceived by
home test. Rampant cheating does not appear to
s.

has been conducted on the use of take
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ate to study them in order to determine if
their use as a viable alternative to assess-
phenomena associated with take home
pes of examinations: the conventional
and the take home test. Specific ques-
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rebs, Virginia Polytechnic Institute and

Press, Inc. Vol. 18, No. 2, 1983

473

Advances in Health Sciences Education (2008) 13:263–273
DOI 10.1007/s10459-006-9038-y

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Open-book Tests to Complement Assessment-programmes: Analysis of Open and Closed-book Tests

M. HEIJNE-PENNINGA[1,*], J. B. M. KUKS[1], J. SCHÖNROCK-ADEMA[2], T. A. B. SNIJDERS[3] and J. COHEN-SCHOTANUS[2]
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(Received: 30 November 2005; Accepted: 20 September 2006)

Abstract. Today's health sciences educational programmes have to deal with a growing and changing amount of knowledge. It is becoming increasingly important for students to be able to use and manage knowledge. We suggest incorporating open-book tests in assessment programmes to meet these changes. This view on the use of open-book tests is discussed and the influence on test quality is examined. To cope with the growing amount of medical knowledge, we have divided the body of knowledge into *core knowledge*, which students must know without need for references, and *backup knowledge*, which students need to understand and use properly with the help of references if so desired. As a result, all tests consist of a subtest for reproduction and understanding of core knowledge (a closed-book test) and a subtest for the ability to understand and manage backup knowledge (an open-book test). Statistical data from 14 such double-subtest exams for first and second-year students were analyzed for two cohorts ($N = 435$ and $N = 449$) with multilevel analysis, in accordance with generalizability theory. The reliability of the open and closed-book sections of the separate tests varied between 0.712 and 0.850. The open-book items reduce reliability somewhat. The estimated disattenuated correlation was 0.960 and 0.937 for cohorts 1 and 2 respectively. It is concluded that the use of open-book items with closed-book items slightly decreases test reliability but the overall index is acceptable. In addition, open and closed-book sections are strongly positively related. Therefore, open-book tests could be helpful in complementing today's assessment programmes.

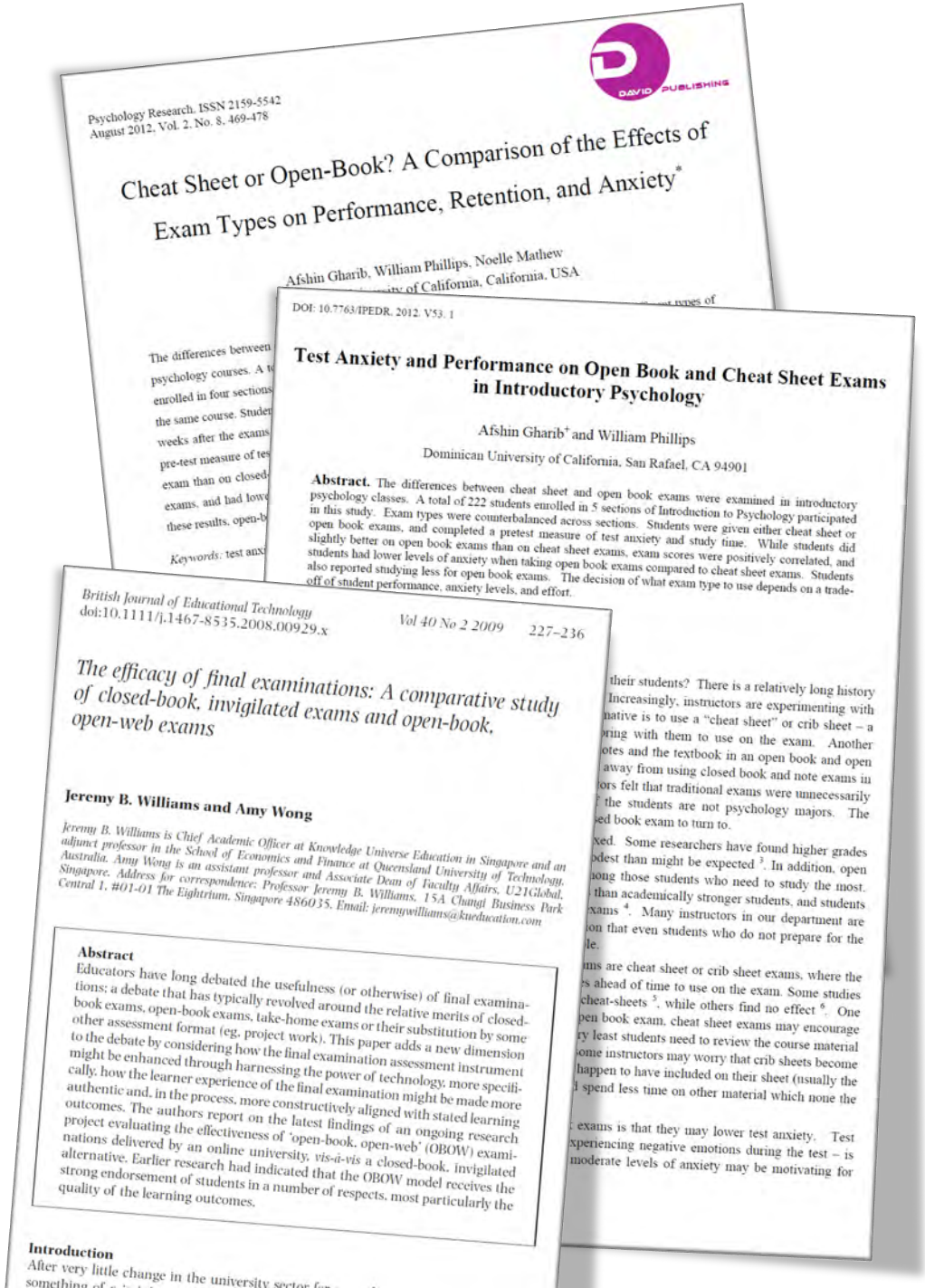
Key words: assessment, competency-based education, educational, learning, open-book tests

Keinerlei Vorteile bei CSE hinsichtlich Prüfungsleistung

Vorbereitungszeit bei CSE tendenziell länger

Stress und Prüfungsangst bei CSE höher als bei OBE/OWE

Keine vermehrten Täuschungsfälle in allen Varianten



Psychology Research, ISSN 2159-5542
August 2012, Vol. 2, No. 8, 469-478

Cheat Sheet or Open-Book? A Comparison of the Effects of Exam Types on Performance, Retention, and Anxiety*

Afshin Gharib, William Phillips, Noelle Mathew

DOI: 10.7763/IPEDR. 2012. V53. 1

Test Anxiety and Performance on Open Book and Cheat Sheet Exams in Introductory Psychology

Afshin Gharib+ and William Phillips

Dominican University of California, San Rafael, CA 94901

Abstract. The differences between cheat sheet and open book exams were examined in introductory psychology classes. A total of 222 students enrolled in 5 sections of Introduction to Psychology participated in this study. Exam types were counterbalanced across sections. Students were given either cheat sheet or open book exams, and completed a pretest measure of test anxiety and study time. While students did slightly better on open book exams than on cheat sheet exams, exam scores were positively correlated, and students had lower levels of anxiety when taking open book exams compared to cheat sheet exams. Students also reported studying less for open book exams. The decision of what exam type to use depends on a trade-off of student performance, anxiety levels, and effort.

British Journal of Educational Technology
doi:10.1111/j.1467-8535.2008.00929.x Vol 40 No 2 2009 227–236

The efficacy of final examinations: A comparative study of closed-book, invigilated exams and open-book, open-web exams

Jeremy B. Williams and Amy Wong

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Abstract
Educators have long debated the usefulness (or otherwise) of final examinations; a debate that has typically revolved around the relative merits of closed-book exams, open-book exams, take-home exams or their substitution by some other assessment format (eg, project work). This paper adds a new dimension to the debate by considering how the final examination assessment instrument might be enhanced through harnessing the power of technology, more specifically, how the learner experience of the final examination might be made more authentic and, in the process, more constructively aligned with stated learning outcomes. The authors report on the latest findings of an ongoing research project evaluating the effectiveness of 'open-book, open-web' (OBOW) examinations delivered by an online university, *vis-à-vis* a closed-book, invigilated alternative. Earlier research had indicated that the OBOW model receives the strong endorsement of students in a number of respects, most particularly the quality of the learning outcomes.

Introduction
After very little change in the university sector for

Arbeitsphase:
Nur noch digital prüfen. Was tun?

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