مرکز منطقه‌ای اطلاع رسانی علوم و فناوری
RICeST

دستنـامه چگونـگی تنظیم چکیده در نشریات ادواری

دکتر شعله ارسطوپور
عضو هیات علمی مرکز منطقه‌ای اطلاع‌رسانی علوم و فناوری

بهار ۱۳۹۴

سرشناسه	:	ارسطوپور ، شعله، ۱۳۶۱ –
عنوان و نام پدیدآور	:	دستنامه چگونگی تنظیم چکیده در نشریات ادواری
مشخصات نشر	:	شیراز: نامه ی پارسی، ۱۳۹۳.
مشخصات ظاهری	:	۶۰ ص.
شابک	:	978-600-7576-35-9
وضعیت فهرست نویسی	:	فیپای مختصر
یادداشت	:	فهرستنویسی کامل این اثر در نشانی: http://opac.nlai.ir قابل دسترسی است
شماره کتابشناسی ملی	:	۳۷۸۶۹۰۲

دستنامه چگونگی تنظیم چکیده در نشریات ادواری

دکتر شعله ارسطوپور

ناظر چاپ و آماده سازی کتاب: کریم فلاح □ صفحه‌آرایی و طرح جلد: نگار چراغی شیرازی

لیتوگرافی و چاپ: پردیس و دنیا □ تیراژ: ۵۰۰ نسخه □ چاپ اول: بهار ۱۳۹۴

ناشرین: مرکز منطقه‌ای اطلاع رسانی علوم و فناوری (RICeST) و نامه‌ی پارسی

مرکز منطقه‌ای اطلاع رسانی علوم و فناوری (RICeST)

روابط عمومی: ۳۶۴۶۸۴۲۱-۰۷۱ انتشارات: ۳۶۴۶۸۴۵۲-۰۷۱ نمابر: ۳۶۴۶۸۳۵۲-۰۷۱

صفحه خانگی: www.ricest.ac.ir **پست الکترونیک:** publication@ricest.ac.ir

توزیع کتاب: انتشارات مرکز منطقه‌ای تلفن: ۳۶۴۶۸۴۵۲-۰۷۱ قیمت: ۲۰۰۰۰ ریال

نامه‌ی پارسی: شیراز، میدان شهرداری، خ نمازی، جنب بانک تجارت شعبه پیروزی، طبقه اول

تلفن و نمابر: ۳۲۲۳۱۲۸۰-۰۷۱

Nameye.parsi@yahoo.com

به نام خدا

نظر به اهمیت نقش اطلاع رسانی در زمینه‌های مختلف علوم و تکنولوژی، به منظور پاسخ‌گویی به نیازهای محققان و کارشناسان و ارائه تازه‌ترین اطلاعات علمی و فنی در کوتاه‌ترین زمان، **مرکز منطقه‌ای اطلاع رسانی علوم و فناوری** براساس تفاهم‌نامه منعقده میان *وزارت علوم، تحقیقات و فناوری* و *فرهنگستان علوم جهان سوم* در سال ۱۳۷۰ دایر و لایحه تاسیس آن در سال ۱۳۷۵ از تصویب مجلس شورای اسلامی و شورای نگهبان گذشت. این مرکز در چهارچوب ضوابط و مقررات آموزش عالی جمهوری اسلامی ایران فعالیت می نماید.

مرکز منطقه‌ای اطلاع رسانی علوم و فناوری از طریق توزیع آخرین اطلاعات علمی و فنی و نیز کمک به تامین منابع علمی مورد نیاز دانشگاهها، سازمان‌ها و نهادهای تحقیقاتی و متخصصان داخلی و منطقه‌ای برای ارتقاء سطح علمی جمهوری اسلامی ایران و سایر کشورهای منطقه فعالیت می‌نماید.

کتاب ***«دستنامه چگونگی تنظیم چکیده در نشریات ادواری»*** در راستای تحقق اهداف فوق تهیه شده و مرکز منطقه‌ای اطلاع‌رسانی علوم و فناوری افتخار دارد که هشتاد و هفتمین اثر خود را که حاصل تلاش سرکار خانم ***دکتر شعله ارسطوپور*** است به زیور طبع بیاراید و تقدیم جامعه علمی و فنی نماید.

امید است اقداماتی از این قبیل موجبات رضایت هرچه بیشتر جامعه علمی و فنی ایران را فراهم آورده و در راستای هدف ما که نشر و اشاعه اطلاعات علمی و فنی است، موثر واقع گردد.

دکتر محمدجواد دهقانی
رئیس مرکز منطقه‌ای اطلاع رسانی علوم و فناوری
و سرپرست پایگاه استنادی علوم جهان اسلام (ISC)

اعضای شـورای عـلمی

مرکز منطقه‌ای اطلاع رسانی علوم و فناوری (RICeST)

پایگاه استنادی علوم جهان اسلام (ISC)

فهرست مندرجات

درآمد

چکیده را می‌توان ابزاری برای آگاهی‌رسانی جاری دانست. این در حالی است که کاربرد آن به عنوان ابزار جستجوی گذشته نگر نیز کماکان پابرجاست. از آن جا که نشریات به هر زبانی سعی دارند تا از طریق انتشار چکیده انگلیسی موانع زبانی را برطرف سازند لذا در اغلب اوقات چکیده به استفاده‌کنندگان امکان می‌دهد تا اطلاعات موجود به زبان‌های دیگر را نیز شناسایی کنند. یک چکیده مناسب به خوانندگان در جهت دستیابی به ایده‌ای پایه از محتوای منبع اطلاعاتی کمک می‌کند. در این راستا حداقل سه کاربرد برای چکیده متصور است:

الف) کمک به تصمیم‌گیری در خصوص مرتبط بودن محتوای اطلاعاتی سند در دست با نیاز اطلاعاتی مخاطب بالقوه آن از جمله کاربردهای اصلی چکیده است. به عبارت بهتر چکیده نشان می‌دهد که آیا نیازی به مطالعه تمام یک متن وجود دارد یا خیر.

ب) کاربرد دیگر چکیده، ارائه اطلاعات کافی برای آن دسته از مخاطبانی است که نیازی به مطالعه عمیق یک منبع اطلاعاتی ندارند. آنها با مطالعه اصلی ترین نکات سند می‌توانند نیاز اطلاعاتی خود را رفع نمایند.

پ) سومین کاربرد چکیده‌ها، در جستجوی تمام متن و یا جستجوی آزاد است. از آن جا که انتظار می‌رود محتوای چکیده در برگیرنده مهم‌ترین نکات و جزئیات منبع اطلاعاتی باشد، لذا نمایه سازی تمام متن آن، در بازیابی موثر اطلاعات نقش اساسی ایفا می‌کند.

در این میان با توجه به کاربـردهای پیش‌گفتـه یکی از زمینـه‌های استفاده از چکیـده‌ها، نشریات ادواری هستند. لازم است کلیه مقالات منتشر شده درنشریات از چکیده‌ای کامل، مناسب و مطابق با استانداردهای بین‌المللی برخوردار باشند. در پیوند با نشریات فارسی زبان لازم است علاوه بر چکیده‌های فارسی تهیه شده برای مقالات، چکیده‌هایی به زبان انگلیسی همراه با اطلاعات کامل عنوان، نام پدیدآورندگان، وابستگی سازمانی و اطلاعات تماس آن‌ها نیز تدوین شود. چرا که برای نمایه‌سازی نشریات در پایگاه‌های بین‌المللی وجود چکیده‌هایی به زبان انگلیسی لازم است. نقش این دست از چکیده‌ها از بین بردن مانع زبانی که می‌تواند منجر به عدم دسترسی محققان سایر کشورها به یافته های محققان ایرانی شود[1]، است.

نوع‌شناسی چکیده‌ها (برگرفته از استاندارد ANSI/NISO Z39.14)

چکیده‌ها بر مبنای نوع معمولا به دو گروه چکیـده‌های راهنمـا و چکیده‌های تمام‌نما تقسیم بندی می شوند:

الف) چکیده‌های راهنما: معمولاً برای متون ساختار نیافته‌تر مانند سخن سردبیر، مقالات کوتاه، مقالات توصیفی، نظرات شخصی، و یا مدارک طولانی‌تر مانند کتاب‌ها و مجموعه مقالات همایش‌ها مورد استفاده قرار می‌گیرد. لازم به توضیح است این دست از چکیده‌ها مناسب مقالاتی که پژوهشی بوده و یا از روش شناسی خاصی پیروی می کنند نمی‌باشند.

ب) چکیده‌های تمام‌نما: معمولاً برای آن دسته از منابعی که گزارشی از یک کار پژوهشی ارائه می‌دهند مناسب است. در این دست از چکیده ها، اهداف، روش شناسی، نتایج و جمع بندی ارائه شده در متن اصلی مورد توجه قرار می گیرد. اگر چه در بسیاری از موارد این ترتیب معمول است، گاه دیده می‌شود با توجه به ویـژگی‌های برخی از نظام‌های خاص، ترتیب اولـویت بخش‌های پیـش‌گفتـه تغییـر می‌نماید.

---

۱. نوشتار حاضر به طور کلی با استفاده از سه اسـتاندارد موجـود در خصـوص چکیـده و چکیـده نویسـی منـابع اطلاعاتی که توسط سازمان بین‌المللی استاندارد (ایزو) و نیز سازمان ملی استاندارد آمریکـا تـدوین شـده، تهیـه و تنظیم گشته است. به منظور تکمیل متن اصلی هر سه استاندارد مورد استفاده به پیوست ارائه می‌شود.

از جمله دیگر دسته‌بندی‌هایی که برای انواع چکیده‌ها در استاندارد ANSI/NISO Z39.14 در نظر گرفته شده است، می توان به موارد زیر اشاره کرد.

گزارمان: توصیفی خلاصه از یک سند و یا محتوای آن است که در قالب یک یادداشت برای روشن ساختن عنوان به کار می‌رود.

چکیده انتقادی: نوعی غیرمتداول از چکیده که در بر گیرنده نظرات ارزیابانه در خصوص اهمیت و کیفیت محتوای در دست چکیده نویسی است. این دست از چکیده‌ها معمولا توسط متخصصان موضوعی نوشته می‌شوند.

چکیده سوگرفته: به نوع خاصی از چکیده اطلاق می‌شود که قسمتی از یک سند که برای نمایه سازی و بازیابی اهمیت دارد را مورد توجه قرار می‌دهد.

چکیده ساختاریافته: چکیده‌ای که بر مبنای مجموعه‌ای از تیترهای از پیش تعریف شده تنظیم شده باشد. طرفداران چکیده های ساختار یافته معتقدند این چکیده‌ها دارای اطلاعات مرتبط‌تر بوده و کیفیت بالاتری دارند و امکان مرور متون همسان و هم موضوع را فراهم می‌سازند.

خلاصه: بیان مجدد محتوای یک مدرک در قالبی کوتاه شده با هدف تکمیل ذهنیت خواننده مطلب است.

چکیده‌های ساختار یافته قالبی مناسب برای مقالات نشریات ادواری

گرایش‌های متفاوتی نسبت به نحوه تنظیم چکیده وجود دارد. چکیده‌های مقالات به صورت معمول می‌توانند قالب ساختار یافته و یا بدون ساختار داشته باشند. انتخاب هر یک از این دو رویکرد به سیاست‌های نشریه بستگی دارد اما نظر به آن که چکیده‌های ساختار یافته قابلیت پردازش بالاتری دارند، امروزه در سطح بین‌المللی قبول عام یافته‌اند. چکیده‌های ساختار یافته این اطمینان را ایجاد می‌کنند که حداقل جنبه‌های اصلی اطلاعات مندرج در متن مقاله را منعکس خواهند کرد. بخش‌های مختلف چکیده ساختار یافته شامل هدف، روش شناسی، نتایج و جمع بندی و نتایج جنبی اثر تولید شده می باشد.

الف) هدف: در این بخش از چکیده اهداف اولیه و دامنه کار توضیح داده شده و دلایل نگارش مقاله به صورت مختصر مورد توجه قرار می‌گیرد. ارجاع دادن در تدوین چکیده مرسوم نیست مگر آن که بدون ارجاع نتوان دلایل تدوین مقاله و اهداف آن را ذکر کرد. بدیهی است در چنین شرایط استثنایی لازم است اطلاعات استناد انجام شده به صورت کامل مطرح شود.

ب) روش شناسی: روش‌ها و رویکردها در این بخش تنها در حدی که ذهنیت خواننده در خصوص کار را روشن سازد ارائه می‌شوند. اصول اولیه روش شناسی، بیان روش‌های جدید، حوزه و گستره کار انجام شده و اطلاعاتی کوتاه در خصوص دقت انجام کار، در این بخش ارائه می شود. لازم به توضیح است برای آن دسته از مطالعاتی که جنبه تجربی نداشته و به روش‌های سندی و یا کتابخانه ای انجام می‌شوند، منابع مورد استفاده و نحوه انتخاب و تحلیل آن‌ها در این بخش مورد توجه قرار می‌گیرد.

پ) نتایج و جمع‌بندی: این بخش یکی از اساسی ترین قسمت‌های چکیده‌های تنظیم شده است. یافته‌های مقاله بایستی به روشنی و در عین حال به صورت خلاصه در این قسمت ارائه شوند. تفاوتی در تجربی و یا نظری بودن نتایج وجود ندارد. بایستی مشخص نمود که داده‌های به دست آمده حاصل چه فعالیت‌هایی هستند و از کجا به دست آمده‌اند. یافته‌های جدید و متفاوت از نظریه‌های پیشین بایستی مورد تاکید قرار گیرد. در قسمت نتیجه‌گیری و کاربردهای بررسی صورت گرفته گزارش شده و روابطی که به تازگی کشف شده‌اند بیان می‌شود.

ت) یافته‌های جنبی: در صورتی که اطلاعات و یافته‌هایی خارج از اهداف پژوهش به دست آمده باشد، در این قسمت گزارش می‌شوند. بدیهی است یافته‌های جنبی بایستی از اهمیت ویژه‌ای برخوردار باشند در غیر این صورت گزارش آن ها در چکیده مناسب نیست.

نحوه تنظیم چکیده

محل چکیده: از نظر استاندارد ISO 214 (پیوست۲) بهترین محل برای چکیده در ابتدای مقاله است. همچنین شایسته است چنانچه صفحه چکیده از متن مقاله کاملا جداست، بر مبنای استاندارد ISO 5122 (پیوست۳) تنظیم شود.

طول چکیده: از آن جا که چکیده نقش آگاهی رسانی برای مخاطب را ایفا می‌کند و وی را از مراجعه به متن برای به دست آوردن اطلاعات اساسی بی‌نیاز می‌سازد، لذا بایستی به صورتی در خود تمام تنظیم شود. این در حالی است که کوتاه و موجز بودن نیز از ویژگی‌های دیگر چکیده‌ها به شمار می‌آید. استاندارد ANSI/NISO Z39.14 طول کلمات هر چکیده را با توجه به نوع به شرح زیر تعیین کرده است:

برای مقالات، و یا فصل‌هایی از تک نگاشت‌ها	حداکثر ۲۵۰ کلمه
برای یادداشت‌ها و مقالات کوتاه	حداکثر ۱۰۰ کلمه
برای سرسخن‌ها و نامه به سردبیر	حداکثر ۳۰ کلمه
برای تک نگاشت‌های طولانی مانند کتاب‌ها و یا پایان‌نامه‌ها	یک صفحه/۳۰۰ کلمه

سبک نگارش: هر چکیده بایستی با یک جمله موضوعی و مشخص که اصلی‌ترین ایده مقاله را مطرح می‌سازد آغاز شود. چنانچه این ایده قبلا در عنوان مطرح شده است می‌توان از این جمله صرف نظر کرد. چکیده‌های کوتاه بایستی در قالب یک پاراگراف تنظیم شوند اما چکیده‌های بلندتر و ساختار یافته از این قاعده مستثنی هستند. جملات بایستی کامل بوده، به زبان حال نوشته شده و از نظر دستوری به صورت معرفه تنظیم شوند.

پدیدآور به عنوان چکیده نویس: فرض بر این است که مولف بهتر از هر کسی می‌داند که سند در مورد چیست. همچنین آگاه است که مخاطبان مقاله چه کسانی هستند. فرض اول اغلب درست است اما فرض دوم ممکن است همواره صادق نباشد. مولف ممکن است پیش فرض های نادرستی داشته باشد. به عنوان نمونه، مخاطب

دلیلی متفاوت از خواندن یک مقاله داشته باشد و فرضا به جای تمرکز بر یافته‌ها بر روش‌شناسی کار تاکید داشته باشد. چنانچه در نگارش چکیده یکی از بخش‌های دارای اهمیت مورد غفلت واقع شود، احتمال از دست رفتن گروهی از استفاده کنندگان بالقوه وجود دارد (کلیولند و کلیولند، ۱۳۸۵). به همین دلیل است که تعیین کردن قسمت‌های کلیدی و الزام نویسندگان به استفاده از قالب چکیده‌های ساختاریافته کمک شایانی در این زمینه خواهد بود.

کلیدواژه‌های اختصاص یافته به مقالات

در ادامه و پس از پایان چکیده معمولا مجموعه‌ای از کلید واژه‌ها با هدف نمایه سازی بهتر ارائه می‌شوند. این کلیدواژه‌ها با نقطه‌گذاری از یکدیگر جدا شده و معمولا توسط نویسنده تدوین می‌شوند. استاندارد خاصی در زمینه تعداد و یا روش تنظیم کلیدواژه‌ها وجود ندارد اما معمولا در متون مختلف بین ۳ تا ۷ کلید واژه برای هر مقاله در نظر می‌گیرند. چرا که در نظر گرفتن کمتر از سه کلید واژه درنهایت با توجه به وجود عنوان و چکیده به منزله منابعی جهت نمایه‌سازی آزاد، عملا مفید نخواهد بود و در نظر گرفتن بیش از هفت کلید واژه نیز احتمال اختصاص کلید واژه‌های نامرتبط و یا کم اهمیت‌تر را بالا می‌برد. به طور متوسط اختصاص ۵ کلید واژه به یک مقاله می‌تواند تضمین کننده ارائه مرتبط‌ترین و با اهمیت‌ترین واژه‌های استخراج شده از متن باشد. بدیهی است نشریات مختلف به منظور ارائه حق انتخاب به نویسندگان این امکان را فراهم می‌آوردند تا در یک گستره (بین ۳ تا ۷ و یا ۵ تا ۷) به انتخاب و ارائه کلید واژه های مرتبط با محتوای مقاله بپردازند. کنترل صحت کلیدواژه‌های اختصاص یافته به هر مقاله برعهده هیات تحریریه نشریه و نیز داوران مقاله است. همچنین نشریه بایستی حق جرح و تعدیل کلیدواژه‌های اختصاص یافته را همانگونه که در استاندارد ISO 5122 نیز مطرح شده برای خود محفوظ بدارد.

جمع‌بندی: چکیده در نشریات ادواری فارسی

با توجه به ساختار نشریات کشور و خصوصا نشریات رتبه دار در ایران و تعریف دو گروه متفاوت از نشریات علمی پژوهشی و علمی ترویجی، به نظر می‌رسد می‌توان برای استفاده از هر یک از این دو نوع چکیده نیز با توجه به نوع مقالات منتشره در نشریات سیاست‌گذاری نمود. این بدان معناست که با توجه به ساختار و کارکرد چکیده‌های تمام نما مناسب مقالات منتشره در نشریات علمی پژوهشی و چکیده‌های راهنما مناسب مقالات منتشر شده درنشریات علمی ترویجی است. با وجود این نظر به ویژگی‌های خاص چکیده های تمام‌نما، بایستی استفاده از آن‌ها در نشریات تخصصی اولویت داشته باشد. این در حالی است که به منظور حفظ انسجام و درنظر گرفتن حداقل اطلاعات لازم برای تدوین چکیده، لازم است نشریات، نویسندگان خود را ملزم به رعایت ویژگیهای چکیده‌های ساختار یافته نمایند.

همچنین بر اساس استاندارد ایزو، چکیده ای با ۲۵۰ واژه در اکثر اوقات برای مقالات کافی است. البته نبایستی فراموش کرد که زبان فارسی با توجه به ساختار خود، ماهیتا از میزان حشو بیشتری نسبت به زبان انگلیسی برخوردار است (میرزایی، ۱۳۸۵). لذا به نظر می‌رسد جهت استانداردسازی کار از یکسو و در نظر گرفتن شرایط زبان فارسی از دیگرسو بهتر است دفاتر نشریات از نویسندگان بخواهند تا بسته به نوع مقالات بین ۲۰۰ تا ۲۵۰ کلمه و یا ۲۵۰ تا ۳۰۰ کلمه برای چکیده‌های خود در نظر بگیرند. بایستی به خاطر داشت اصولا چکیده بر اساس استاندارد ایزو نبایستی بیش از ۵۰۰ کلمه داشته باشد.

اما به طور کلی نبایستی فراموش کرد که چکیده‌ها همانگونه که در دستنامه انجمن روانشناسی آمریکا (APA, 2010) نیز آمده است بایستی حائز شرایط زیر باشند:

۱. دقیق. بایستی اطمینان یافت که چکیده بازتاب درست و دقیقی از اهداف و محتوای متن مقاله است. مطالبی که در متن مقاله نیامده است را نباید در چکیده آورد. چنانچه پژوهش برپایه پژوهشی دیگر استوار است، بایستی به نویسنده و سال آن پژوهش در چکیده اشاره شود.

۲. بدون ارزیابی. چکیده بایستی گزارش‌گونه بوده و از هرگونه داوری و یا ارزیابی بپرهیزد. اظهار نظر در مورد محتوای مقاله در چکیده درست نیست.

۳. منسجم و خوانا. چکیده بایستی به صورت فشرده و واضح نوشته شود. برای گزارش یافته های پژوهش از زمان حال استفاده شده و از زمان گذشته برای روش و یا متغیرهایی که در طول پژوهش دستکاری شده و مقادیری که اندازه گیری شده‌اند استفاده می‌شود.

۴. فشرده. بایستی به اختصار مطالب را بیان کرده و همه جملات را تا حد ممکن غنی از اطلاعات نمود. بایستی چکیده را با مهمترین نکات آغاز کرده و از تکرار عنوان پرهیز کرد. شایسته است از واژه‌هایی در چکیده استفاده شود که احتمال استفاده آنها توسط کاربران هنگام جستجوی اطلاعات بیشتر است.

اطلاعات کلیدی مورد نیاز در هر چکیده بر مبنای نوع مقاله متفاوت است. انجمن روانشناسان آمریکا، حداقل‌هایی را برای ساختار چکیده‌ها مورد توجه قرار داده است (APA, 2010):

الف) حداقل ملزومات چکیده برای گزارش‌ها و پژوهش‌های تجربی عبارتند از:

- مساله پژوهش (در یک جمله)،
- مشارکت‌کنندگان در پژوهش با ذکر ویژگیهای اصلی آنها اعم از جنسیت، سن، گروههای قومی و در مطالعات مرتبط با حیوانات، گروه و رسته آنها،
- ویژگیهای اصلی روش پژوهش، این موارد بایستی به صورت محدود مورد اشاره قرار گیرد. لذا به کلیدواژه‌های مورد نظر کاربران احتمالی هنگام جستجو در پیوند با روش دقت کنید،
- یافته‌های اساسی که شامل میزان تاثیر، میزان دقت، معناداری آماری و مواردی از این دست می‌باشد،
- نتیجه‌گیری و جمع‌بندی شامل کاربـردها و کاربست‌های مختلف مرتبط با یافتـه‌های پژوهش.

ب) حداقل ملزومات چکیده برای مقالات مروری و یا فراتحلیل‌ها:

- مساله و یا رابطه مورد بررسی
- معیارهای اصالت مطالعه
- انواع شرکت کنندگان در مطالعات اولیه
- یافته‌های اصلی (شامل اثرات و عوامل تاثیرگذار اصلی بر آنها)
- نتیجه‌گیری (شامل محدودیت‌های پژوهش)
- دلالت‌ها و کاربستهای نظری، سیاستی، و یا عملی حاصل از یافته‌ها

پ) حداقل ملزومات چکیده‌های مرتبط با مقالات تدوین کننده نظریه:

- چگونگی کار نظریه و یا مدل و اصول بنیادینی که نظریه و یا مدل مذکور برپایه آن قوام یافته است
- پدیده‌های مرتبط با نظریه و یا مدل و برقراری ربط آن با مطالعات تجربی

ت) حداقل ملزومات چکیده‌های مرتبط با مقالات روش شناسانه:

- توصیف گروه اصلی روشهایی که مورد بحث قرار گرفته‌اند
- ویژگیهای اصلی روش پیشنهادی
- گستره کاربردی روش پیشنهادی
- در صورت وجود راهبردهای آماری و حائز اهمیت بودن آنها (مواردی که قدرت و کارایی روش اشاره دارد) بایستی به این موارد نیز اشاره شود.

ث) حداقل ملزومات چکیده‌های مرتبط با پژوهشهای موردی:

- توصیف دقیق موضوع پژوهش به همراه ویژگیهای فردی، گروهی، جمعی و یا سازمانی آن که به صورت خاص با پژوهش در ارتباط است.
- ماهیت مشکل و یا راه حل پیشنهادی جهت برطرف ساختن آن در موردی که در پژوهش مد نظر و بررسی قرار گرفته است.
- پرسشهایی که برای پژوهشهای بعدی و یا نظریه سازی‌های آتی بایستی مورد توجه قرار گیرند.

همانگونه که پیشتر نیز بیان شد، کلیدواژه‌ها بلافاصله پس از چکیده در قسمتی جداگانه قرار گرفته و با نقطه گذاری‌هایی که برمبنای سیاست نشریه می‌تواند متفاوت باشد، از یکدیگر جدا می‌شوند. هنگام تهیه کلیدواژه‌ها علاوه بر رعایت گستره استاندارد ۳ تا ۷ مورد، بایستی در نظر داشت که از کلیدواژه‌ها با هدف بازیابی استفاده می شود. لذا بایستی تلاش کرد تا اصلی‌ترین واژه‌هایی که احتمال استفاده آنها توسط کاربر برای بازیابی اطلاعات می‌رود انتخاب شوند. انتظار می رود با توجه به اهمیت، از هریک از بخشهای چکیده‌های ساختار یافته حداقل یک کلیدواژه و حداکثر دو کلیدواژه انتخاب گردد.

منابع:

کلیولند، دونالد بی؛ کلیولند، آنا دی. (۱۳۸۵). درآمدی بر نمایه‌سازی و چکیده نویسی. ترجمه مهدی حسینی. تهران: چاپار.

میرزایی، اردوان (۱۳۸۵). حشو در زبان با رویکرد نظریه اطلاعات. پیک نور- علوم انسانی، دوره ۴ (۴): ۴۰ – ۴۸.

APA (2010). Publication Manual of the American Psychological Association. Washington: American Psychological Association.

ISO 214 (1976). Documentation – Abstracts for Publications and Documentation. International Organization for Standardization.

ISO 5122. (1979). Documentation- Abstract Sheets in Serial Publication. International Organization for Standardization.

National Information Standards Organization (1997). Guidelines for Abstracts (ANSI/NISO Z39.14). Retrieved 2014-01-01 from: http://www.niso.org/apps/group_public/download.php/6609/Guidelines%20for%20Abstracts.pdf

پیوست ۱. دستورالعمل تدوین چکیده ساختاریافته برای نشریات فارسی

چکیده مقالات بایستی به صورت ساختاریافته تنظیم شود. نظر به آن که چکیده‌های ساختار یافته قابلیت پردازش بالاتری دارند، این اطمینان را ایجاد می‌کنند که حداقل جنبه‌های اصلی اطلاعات مندرج در مقاله را منعکس خواهند کرد. بخش‌های مختلف چکیده ساختار یافته از این قرارند:

الف) هدف: در برگیرنده اهداف اولیه، دامنه کار، دلایل نگارش مقاله.

ب) روش شناسی: دربرگیرنده روش ها و رویکردها تا حدی که ذهن مخاطب در خصوص روش کار روشن شود. اشاره به روش های جدید، حوزه و دامنه کار و دقت انجام کار در این بخش توصیه می‌شود. لازم به توضیح است برای آن دسته از مطالعاتی که جنبه تجربی نداشته و به روش‌های سندی و یا کتابخانه‌ای انجام می‌شوند، بایستی منابع مورد استفاده و نحوه تحلیل آن‌ها بیان شود.

پ) نتایج و جمع‌بندی: یافته‌های مقاله بایستی به روشنی و در عین حال به صورت خلاصه در این قسمت ارائه شوند. ارائه یافته‌های جدید و متفاوت از نظریه‌های پیشین بایستی مورد تاکید قرار گرفته نتیجه‌گیری و کاربردهای نتایج گزارش شده و روابطی که به تازگی کشف شده اند بیان می‌شود.

ت) یافته‌های جنبی: در این قسمت صرفاً اطلاعات و یافته‌هایی خارج از اهداف پژوهش که دارای اهمیت جدی باشند گزارش می‌شوند.

از نظر طول، بر اساس استاندارد ایزو، چکیده‌ای با ۲۵۰ واژه در اکثر اوقات برای مقالات کافی است. با وجود این دفاتر نشریات می‌توانند از نویسندگان بخواهند تا بسته به نوع مقالات دو گستره بین ۲۰۰ تا ۲۵۰ کلمه و یا ۲۵۰ تا ۳۰۰ کلمه را برای چکیده های خود در نظر بگیرند. به هر حال اصولا چکیده بر اساس استاندارد ایزو نبایستی بیش از ۵۰۰ کلمه داشته باشد.

کلیدواژه‌ها بلافاصله پس از چکیده در قسمتی جداگانه قرار گرفته و با نقطه‌گذاری‌هایی که برمبنای سیاست نشریه تعیین شده، از یکدیگر جدا می‌شوند. هنگام

تهیه کلیدواژه‌ها علاوه بر رعایت گستره معمول ۳ تا ۷ مورد، بایستی در نظر داشت که از کلیدواژه ها با هدف بازیابی استفاده می شود. لذا بایستی تلاش شود تا اصلی‌ترین واژه‌هایی که احتمال استفاده آنها توسط کاربر برای بازیابی اطلاعات می رود انتخاب شوند. انتظار می‌رود با توجه به اهمیت، از هریک از بخشهای چکیده‌های ساختار یافته حداقل یک کلیدواژه و حداکثر دو کلیدواژه انتخاب گردد. نشریه می‌تواند اختیار اصلاح و یا تغییر کلیدواژه‌های یک مقاله را به صلاحدید اعضای هیات تحریریه برای خود محفوظ بدارد. همچنین لازم است دفاتر نشریات راهنمایی‌هایی را به صورت مشخص در خصوص تدوین چکیده‌های خود در اختیار نویسندگان قرار دهند.

پیوست ۲. استاندارد ISO 214 در خصوص تدوین چکیده

214-76 4851903 0020699 6

W-47-55

INTERNATIONAL STANDARD ISO 214

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Documentation — Abstracts for publications and documentation

Documentation — Analyse pour les publications et la documentation

First edition — 1976-03-01

UDC 002 : 001.814.4 : 655.535.54 **Ref. No.** ISO 214-1976 (E)

Descriptors : documentation, abstracts, preparation, layout, specifications.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 214 was drawn up by Technical Committee ISO/TC 46, *Documentation*, and circulated to the Member Bodies in May 1974.

It has been approved by the Member Bodies of the following countries :

Australia	India	Spain
Austria	Iran	Sweden
Belgium	Ireland	Switzerland
Brazil	Israel	Thailand
Bulgaria	Italy	United Kingdom
Canada	Netherlands	U.S.A.
Finland	Poland	U.S.S.R.
France	Portugal	Yugoslavia
Germany	Romania	
Hungary	South Africa, Rep. of	

No Member Body expressed disapproval of the document.

This International Standard cancels and replaces ISO Recommendation R 214-1961, of which it constitutes a technical revision.

214-76 4851903 0020701 0
INTERNATIONAL STANDARD ISO 214-1976 (E)

Documentation – Abstracts for publications and documentation

0 INTRODUCTION

The growing volume of scholarly, scientific, technical, and other informational and instructional documents makes it increasingly important that the basic content of each document be quickly and accurately identifiable both by readers of the primary literature and by users of secondary services. This ready identification is aided if the author of a primary document (aided by editors) begins it with a meaningful title and a well-prepared abstract.

1 SCOPE AND FIELD OF APPLICATION

This International Standard presents guidelines for the preparation and presentation of abstracts of documents. Emphasis is placed on the abstracts prepared by the authors of primary documents, and on their publication, because such abstracts can be both helpful to the readers of these documents and reproducible with little or no change in secondary publications and services. The basic guidelines are also suitable for the preparation of abstracts by persons other than the authors, so specific guidelines are also included for the presentation of abstracts in secondary publications and services.

2 DEFINITIONS

In this International Standard, the term **abstract** signifies an abbreviated, accurate representation of the contents of a document, without added interpretation or criticism[1] and without distinction as to who wrote the abstract.[2]

An abstract should be as **informative** as is permitted by the type and style of the document; that is, it should present as much as possible of the quantitative and/or qualitative information contained in the document.[3] Informative abstracts are especially desirable for texts describing experimental work and documents devoted to a single theme. However, some discursive or lengthy texts, such as broad overviews, review papers, and entire monographs, may permit the preparation of an abstract that is only an **indicative** or descriptive guide to the type of document, the principal subjects covered, and the way the facts are treated. A combined **informative-indicative** abstract must often be prepared when limitations on the length of the abstract or the type and style of the document make it necessary to confine informative statements to the primary elements of the document and to relegate other aspects to indicative statements. See examples 1 to 3.

Abstracts should not be confused with related, but distinct, terms : annotation, extract, and summary. An **annotation** is a brief comment or explanation about a document or its contents, or even a very brief description, usually added as a note after the bibliographic citation of the document. An **extract** is one or more portions of a document selected to represent the whole. A **summary**, if one is needed, is a brief restatement within the document (usually at the end) of its salient findings and conclusions, and is intended to complete the orientation of a reader who has studied the preceding text. (Because other portions of the document, for example purpose, methodology, are not usually condensed into this type of summary, the term should not be used synonymously with "abstract"; i.e. abstract as defined above should not be called a summary, and a summary, if used, should not duplicate – should not take on the full scope of – the abstract.)

1) A brief, critical **review** of a document often takes on much of the character of an informative or informative-indicative abstract, but its writer is expected to include suitable criticism and interpretation.

2) The word **synopsis** was formerly used to denote a résumé prepared by the author, with the term **abstract** restricted to a condensation prepared by some other person. Elimination of this distinction, which has largely disappeared, was one of the reasons for revising ISO/R 214-1961.

3) More-indicative abstracts or even annotations are less expensive to prepare, and may sometimes be all that stringencies in publication economics will permit. However, governing factors such as economics should not be confused with true standards for the quality of abstracts.

ISO 214-1976 (E) 214-76 4851903 0020702 2

3 PURPOSE AND USE OF ABSTRACTS

3.1 Determining relevance

A well-prepared abstract enables readers to identify the basic content of a document quickly and accurately, to determine its relevance to their interests, and thus to decide whether they need to read the document in its entirety.

3.2 Obviating reading full text of fringe documents

Readers for whom the document is of fringe interest often obtain enough information from the abstract to make their reading of the whole document unnecessary.

3.3 Usefulness for computerized full-text searching

Abstracts are also of value in computerized full-text searching for alerting and information retrieval.

3.4 Use in specific primary documents

The following recommendations are for authors and editors of specific documents and publications, such as journals, reports and theses, monographs and proceedings, and patents.

3.4.1 *Journals*

Include an abstract with every journal article, essay, and discussion. Notes, short communications, editorials, and "letters to the editor" that have substantial technical or scholarly content should also have brief abstracts.

3.4.2 *Reports and theses*

Include an abstract in every separately published report, pamphlet, or thesis.

3.4.3 *Monographs and proceedings*

A single abstract may suffice in a book or monograph that deals with a homogeneous subject. However, a separate abstract is also necessary for each chapter if the volume covers different topics or is a collection of papers by different authors (for example, the proceedings of a meeting or symposium). See example 4.

3.4.4 *Patents*

Each patent or application should be accompanied by an abstract, as required by the rules of the issuing country or international agency.

3.5 Use in secondary publications and services

Secondary publications and services can often make verbatim use of the abstracts provided in primary documents if these abstracts have been carefully prepared and are free from copyright restrictions. Such authors' abstracts can also provide suitable bases for the secondary service that orients its abstracts to a group of users different from those envisaged by the authors. A completely new abstract usually needs to be written only when brief, subordinated phases of a document are all that fall within the scope of a secondary publication.

3.6 Use on documentation cards

Documentation cards can be conveniently prepared or even separated from the "abstract sheets" of journals and proceedings that include and properly present such pages of abstracts; see ISO 5122, *Documentation – Abstract sheets in serial publications*[1]. Also, when documentation cards accompany documents such as reports, these cards should preferably carry the abstracts that these documents contain.

4 TREATMENT OF DOCUMENT CONTENT

Readers in many disciplines have become accustomed to an abstract that states the purpose, methodology, results, and conclusions presented in the original document. Most documents describing experimental work can be analysed according to these elements, but their optimum sequence may depend on the audience for which the abstract is primarily intended. Readers interested in applying new knowledge may gain information more quickly from a findings-oriented arrangement in which the most important results and conclusions are placed first, followed by supporting details, other findings, and methodology. See parts A and B of example 5.

The following rules are optimum for informative abstracts. Writers of informative-indicative and indicative abstracts should follow them to the extent that is practical.

4.1 Purpose

State the primary objectives and scope of the study or the reasons why the document was written unless these are already clear from the title of the document or can be derived from the remainder of the abstract. Refer to earlier literature only if it is an essential part of the purpose.[2]

4.2 Methodology

Describe techniques or approaches only to the degree necessary for comprehension. Identify new techniques clearly, however, and describe the basic methodological principle, the range of operation, and the obtainable accuracy. For documents concerned with non-experimental work, describe data sources and data manipulation.

---

1) At present at the stage of draft.

2) In this event, an adequate bibliographic citation should be given within parentheses.

4.3 Results and conclusions

Results and conclusions should be clearly presented. They may be abstracted jointly to avoid redundancy, but conjecture must be differentiated from fact.

4.3.1 *Results*

Describe findings as concisely and informatively as possible. They may be experimental or theoretical results obtained, data collected, relationships and correlations noted, effects observed, etc. Make clear whether numerical values are raw or derived and whether they are the results of a single observation or of repeated measurements. When findings are too numerous for all to be included, some of the following should receive priority : new and verified events, findings of long-term value, significant discoveries, findings that contradict previous theories, or findings that the author knows are relevant to a practical problem. Limits of accuracy and reliability and ranges of validity should be indicated.

4.3.2 *Conclusions*

Describe the implications of the results and especially how these relate to the purpose of the investigation or for preparing the document. Conclusions can be associated with recommendations, evaluations, applications, suggestions, new relationships, and hypotheses accepted or rejected.

4.4 Collateral information

Include findings or information incidental to the main purpose of the document but of value outside its major subject area (for example, modifications of methods, new compounds, newly determined physical constants, and newly discovered documents or data sources). Report these clearly, but in such a way that they do not distract attention from the main theme. Do not exaggerate their relative importance in the abstracted document.

5 PRESENTATION AND STYLE

5.1 Location of the abstract

Place the abstract (at least one in the language of the original document) as early as possible in each document.

In a journal, publish the abstract prominently on the first page of each article or other abstractable item, preferably between its title and author information and the text. It is also desirable to include it on an "abstract sheet" prepared in accordance with ISO 5122, *Documentation – Abstract sheets in serial publications.*

In a separately published report, place the abstract on the title page (if possible), on the "report documentation page" (if one is included), or on a right-hand page preceding the table of contents.[1)]

In a book, monograph, or thesis, place the abstract on the back of the title page or on the right-hand page following it. Place separate abstracts of chapters on or preceding their first pages.

5.2 Bibliographic information

In primary publications, include a bibliographic citation of the document on the same page as the abstract in a suitable location, for example in the running head or in the bottom margin. In secondary publications, or whenever the abstract of document is reproduced separately from it, precede or follow[2)] the abstract with the bibliographic citation of the original document. Three variations of this practice are shown in example 6.

For details of citation practices see ISO 690, *Documentation – Bibliographical references – Essential and supplementary elements.*

5.3 Documentation cards

Presentation of the abstract and its bibliographic citation in a format also suitable for documentation cards is particularly desirable. The use of cardboard is preferable, both for "abstract sheets" and for documentation cards accompanying a document, but if printing is on the same paper as the rest of a publication it should be on one side only, to permit cutting out and mounting on blank cards. Maximum printing dimensions of 64 mm X 95 mm will permit use of cards sizes of either 74 mm X 105 mm (ISO A7) or 75 mm X 125 mm (the size of the international library catalogue card).

5.4 Completeness, accuracy, and length

Since an abstract must be intelligible to the reader without reference to the document, make the abstract self-contained. Retain the basic information and tone of the original document. Be as concise as possible while still fulfilling requirements as to content, but do not be cryptic or obscure. Cite background information sparingly if at all. Do not include information or claims not contained in the document itself.

For most papers and portions of monographs, an abstract of fewer than 250 words will be adequate. For notes and short communications, fewer than 100 words should suffice. Editorials and "letters to the editor" often will require only a single-sentence abstract. For long documents such as reports and theses, an abstract generally should be less than 500 words and preferably short enough to appear on a single page. The contents of the document are often more significant than its length in determining the length of the abstract required.

---

1) If a brief foreword is deemed necessary to supply background information in a report, the abstract should follow the foreword and should not repeat its background information.

2) In the latter case, however, the title of the document may optionally precede the abstract.

5.5 Style

Begin the abstract with a topic sentence that is a central statement of the document's major theme, unless this is already well stated in the document's title preceding the abstract. In abstracts specifically written or modified for secondary use, state the type of the document early in the abstract when this is not evident from the title or publisher of the document or will not be clear from the remainder of the abstract. Explain either the author's treatment of the subject or the nature of the document; for example, theoretical treatment, case history, state-of-the-art report, historical review, report of original research, "letter to the editor", literature survey, etc.

5.5.1 *Paragraphing; complete sentences*

Write a short abstract as a single, unified paragraph, but use more than one paragraph for long abstracts. Write the abstract in complete sentences, especially in informative abstracts, and use transitional words and phrases for coherence. A sequence of keywords for indexing (separated by punctuation) may follow the text of the abstract, however, or may be substituted for it when an indicative abstract would otherwise have been employed.

5.5.2 *Use of active verbs and personal pronouns*

Use verbs in the active voice whenever possible; they contribute to clear, brief, forceful writing. However, the passive voice may be used for indicative statements and even for informative statements in which the receiver of the action should be stressed. For example :

Say : "Iron-containing bauxites sweeten gasolines in the presence of air."

Not : "Gasolines are sweetened by iron-containing bauxites in the presence of air."

But : "The relative adsorption coefficients of ether, water, and acetylene were measured by . . ."

Use the third person unless use of the first person will avoid cumbersome sentence constructions and lead to greater clarity.

5.5.3 *Terminology*

Use significant words from the text which will help computerized text searching.

Avoid unfamiliar terms, acronyms, abbreviations or symbols, or define them the first time they occur in the abstract. Use ISO units, symbols, and terminology whenever possible, or national standards in their absence.

5.5.4 *Non-textual material*

Include short tables, equations, structural formulas, and diagrams only when necessary for brevity and clarity and when no acceptable alternative exists.

ANNEX

EXAMPLES OF ABSTRACTS*

EXAMPLE 1 – Typical informative abstracts

THE LOW-INCOME FARMER IN A CHANGING SOCIETY[1]

To identify some major differences among low-income farmers, and to delineate the group that represents the real core of the persistently poor, data were obtained from 189 farm operators representing a stratified random sample in Fayette County, Pennsylvania, in 1957. The five main categories of individuals identified were: (1) the aged, (2) the physically handicapped, (3) the farm operator primarily oriented to non-farm opportunities, (4) the farm operator oriented to commercial agriculture, and (5) the farm operator oriented to subsistence agriculture. The characteristics of the core of low-income subsistence farmers who normally do not respond to either welfare or economic-development efforts were examined in greater detail. It was found that they: (1) retained traditional values while having lost many traditional subsistence skills, (2) failed to respond to greater agricultural efficiency and productivity efforts because commercial success was not highly valued, (3) placed extreme emphasis on neighborliness and friendliness as their primary goals, and (4) must respond to an attempt to change prestige orientation if their cycle of poverty is to be broken.

STORAGE OF NATURAL GAS. FUNDAMENTALS OF A NEW METHOD[2]

A methane absorption method may be more economical for peakshaving than liquefied natural gas or dry pressurized storage. A pressure holder containing liquid propane and/or butane precooled to $-76\ ^{\circ}F$ is supplied with cooled gaseous methane from supply lines at off-peak periods. The methane is introduced at the bottom of the tank to prevent the lighter liquid (methane absorbed in propane) from affecting further absorption. During peaks, a valve is automatically opened, and the resulting pressure drop brings the methane into the supply lines via a Wobbe-number regulator. In severe peaks, liquefied natural gas can also be used. Optimum conditions for the absorption method would be for 3 to 11,4 million ft^3/storage cycle or up to 1,14 billion ft^3/season.

TUNGSTEN CARBIDE AS ANODE MATERIAL FOR FUEL CELLS[3]

Stationary potentiostatic current-voltage curves for tungsten carbide and Raney platinum electrodes of equal size in the electrochemical oxidation of 6 M formaldehyde in 3 M sulphuric acid at 70 °C showed that tungsten carbide was superior in the potential range of interest for fuel cell anodes. Current densities after 3 h were 650 mA/g of tungsten carbide using formaldehyde, 500 mA/g using hydrogen, and 160 mA/g using formic acid. Graph.

LEAD : X-RAY DIFFRACTION STUDY OF A HIGH-PRESSURE POLYMORPH[4]

An X-ray diffraction study of lead under pressure has shown that the face-centred cubic structure transforms to the hexagonal close-packed structure at room temperature and a pressure of 130 ± 10 kbar. The volume change for the transformation is $-0,18 \pm 0,06\ cm^3$/mol.

PHOSPHATE EQUILIBRIA. II. STUDIES ON THE SILVER-PHOSPHATE ELECTRODE[5]

The solubility of Ag_3PO_4 was studied at 25 °C in 3M $NaClO_4$ by using glass and Ag electrodes (to measure $[H^+]$ and $[Ag^+]$). The solubility product of Ag_3PO_4, $K_S = [Ag^+]^3\ [HPO_4^{2-}]/[H^+]$, was calculated as $\log K_S = -6,70 \pm 0,04$. The data give no evidence for another solid phosphate or for a variation in the composition of Ag_3PO_4. They are compatible with small amounts of soluble Ag phosphate complex; the best agreement, though not conclusive, is with a complex $AgHPO_4^-$, with a formation constant (from Ag^+ and HPO_4^{2-}) $\log K < 3,18$. The equilibrium is relatively rapid. The Ag_3PO_4/Ag electrode may be used to study phosphate complexing with other metal ions.

CHROMIUM AS CATALYST IN AMMONIA SYNTHESIS[6]

When a chromium catalyst prepared by the decomposition of dibenzenechromium was used in the synthesis of ammonia at 436,5 °C, the rate constants of ammonia formation for a given catalyst surface area were of the same order of magnitude as those on iron. The results confirm the hypothesis that the catalytic action of metallic iron in ammonia synthesis is due to its atomic symmetry, and that other transition metals having the same symmetry, and similar interatomic distances as the (111) face of iron should also be catalytically active. The results also confirm an ammonia synthesis mechanism in which the initial product is N_2H.

THE FILM-FORMING PROPERTIES OF EMULSIFIERS OBTAINED FROM PETROLEUM[7]

A vanadium porphyrin complex formed a film around a water droplet in benzene much more rapidly than did asphaltenes or resins, and, as with emulsifiers from five crude oils, film formation was slightly faster in formation water than in distilled water in tests involving drawing a water droplet from a benzene solution containing 0,025 % by mass of the emulsifier into a capillary tube in 1 min or 2 h or 24 h at 25 °C. The film-forming ability of the emulsifier was determined by the ratio of the droplet length at the time of necking to the initial droplet length.

EXAMPLE 2 – Typical informative-indicative abstracts

DIAGNOSING INTERDEPARTMENTAL CONFLICT[8]

Resolution of interdepartmental conflicts that decrease productivity may require structural reorganization to reduce authority-prestige ambiguity and internal social instability, and/or may require intergroup training and counseling to reduce point-of-view conflicts. A thorough study is needed of the goals and environment of the organization as a whole. Experience (cited in numerous case histories) has demonstrated that three conditions must be established to reduce these interdepartmental conflicts. Each group must have internal social stability, including common interests and promotion opportunities. Groups in close contact must share external values through common training and point of view. Authority, as indicated by work flow and control, must follow prestige lines to be legitimate.

* Except for example 6, the format in these examples is similar to that used in primary publications; i.e. the document title is centred above the text of the abstract. The bibliographic references for the documents abstracted are collected at the end of this annex; they are given in accordance with ISO 690, except that the document titles have not had to be included.

ISO 214-1976 (E) 214-76 4851903 0020706 T

THE IMPACT OF DEVELOPMENTS IN SHIPPING TECHNOLOGY ON SHIPPING OPERATIONAL COSTS[9]

The modern shipbuilder must anticipate future needs for marine transportation, specialize as to type of ship and size, and develop the required product on the soundest possible commercial basis. Low capital cost is important, but the builder's share of total cost is relatively small, and economies in shipbuilding therefore have limited effect on overall costs. Efficient design for both technical performance and low maintenance costs is of great importance, with the following items especially deserving of attention : ship form; propeller design; main propulsion units; bulbous bow; automation; cargo handling; paint systems and corrosion control; maintenance; and the moduling of engine-room systems. Mathematical methods are necessary for determining whether increased costs for innovations will be justified by operational savings, and examples of computer programs developed by B.S.R.A. (British Ship Research Association) for this purpose are cited.

A STUDY OF THE ARRANGEMENT OF SHUT-OFF VALVES IN THE CARGO OIL SYSTEMS OF LARGE TANKERS[10]

Previous work on pressure losses in shut-off valves is used as a basis for calculating moments in central and eccentric valves during loading, unloading, and ballasting. Throttling curves are shown for various types of valves. Although eccentric valves can reduce the turning moment they are sensitive to changes in flow direction. Further work is needed on the effect of velocity, pressure ratio, and turning moment in systems where changes in flow can result in large hydraulic moments.

PRODUCTION-ORIENTED STRUCTURAL DESIGN OF LARGE SHIPS[11]

Design of ships such as a 240 000 dwt tanker and a 150 000 dwt OBO carrier to facilitate economic production without loss of ship efficiency involves simplification, standardization, minimum weld lengths, and the selection of hull components and assemblies with ease of production and assembly in view. Considerations of ease of transport, storage, assembly, erection, prefabrication, and fitting out at an early stage are discussed.

EXAMPLE 3 – Typical indicative abstracts

As noted in clause 2, indicative abstracts should preferably be prepared only when the nature or length of the document being abstracted will not permit the writing of an informative or informative-indicative abstract. See also example 5, part C.

HOW METALLOGRAPHY HELPS THE MATERIALS ENGINEER[12]

Eleven case histories demonstrate the application of metallography in solving material problems. Metallography helps the engineer who is seeking details of brazed joints; viewing details of grain-boundary precipitate; examining composites formed by a high-energy-rate process; investigating aspects of stress corrosion; studying how tension and creep affect composites; studying corroded bearings; checking "white layer" on nitrided surfaces; finding out how coring develops in cast brass; analysing failures with the electron microscope; comparing carbides in cast and wrought stainless; and doing research at extra-high magnification. Details of structures in photos are interpreted.

ADVANCES IN THE CONSTRUCTION AND UTILIZATION OF TANK CARS. 3. THE DESIGNER'S VIEWPOINT[13]

A brief survey covers the gradual development of tank car design from low-capacity riveted two-axle tanks to the two-truck, four-axle high-payload cars of today; tank cars designed for the transportation of class IIIa liquid products at 1 atm, including the required wall thickness, quality of steel, manner of construction, accessories, pressure tests of the welded seams, maximum capacity, and load; pressurized cars for carrying class Id liquefied gases, including the materials specifications, steel composition, X-ray testing of welds, safety valves, level gauges, hydraulic pressure testing, and separate draining equipment for the liquid and gas phases; frame construction (central girder or side frame); truck construction (springs and shock absorbers); and trends toward unified European regulations covering transportation by tank cars, higher speeds and loads, and automatic coupling.

DUST TRANSPORT IN TRANSMISSION AND DISTRIBUTION LINES[14]

The study deals with the effect of pressure on the transport velocity of dust in gas pipelines, including such factors of the total process as the effect of weight and friction forces on the dust particle; speed limit of particle fall as a function of its diameter and the characteristics of the gas stream; thickness of the laminar layer on "dunes" formed on the pipe bottom; and speed of gas in this layer. Correlations developed were verified experimentally.

ORGANIZATION OF SMALL LABORATORY[15]

A view is presented of the day-to-day operation of a small mechanical-testing laboratory engaged primarily in experimental stress analysis. Emphasis is placed on the training of personnel, availability of modular test equipment and facilities, and the systematic organization of materials and procedures.

DUTCH EQUIPMENT FOR THE CHEMICAL PROCESS INDUSTRY[16]

A discussion on the manufacture in the Netherlands of equipment for the petrochemical and chemical process industries covers heat exchangers, evaporators, heaters, distillation apparatus, pumps, compressors, furnaces, pressure vessels, and gas tanks.

RESIDUAL REDUCTION AND DESULPHURIZATION BY I.F.P HYDROTREATMENT[17]

A discussion covers the main features of the pretreatment designed to improve the product quality and catalyst life in the *Institut Français du Pétrole* hydrodesulphurization process.

EXAMPLE 4 – Abstracts of monographs and chapters

A. Whole monographs. A single abstract may suffice if the monograph deals with a homogeneous subject.

PART-TIME INDUSTRIAL COOPERATIVE EDUCATION. A MANUAL FOR ADMINISTRATORS AND COORDINATORS[18]

This manual is intended to assist school administrators and teacher coordinators in establishing and maintaining programs of industrial cooperative education. These are programs of vocational education designed to provide high-school youth with opportunities to receive on-the-job training in a trade or industrial occupation, of his or her choice, by cooperatively utilizing the resources of the school and community. This 1968 revised edition presents the basic philosophy, activities, methods, and operational procedures of industrial cooperative education programs. The topical areas include: (1) establishing an industrial cooperative education program; (2) the high-school administrator's responsibilities; (3) the teacher-coordinator; (4) the teacher-coordinator begins his work; (5) selection and placement of student learners; (6) related instruction, coordination, reports and records; (7) advisory committees: their organization and function; (8) program evaluation in industrial co-operative education; and (9) aids for the teacher-coordinator.

B. Chapters. A separate abstract is needed for each chapter if a monograph covers many different topics or is a collection of articles by different authors, as in the case of proceedings of a meeting or symposium. Abstracts of chapters should be as informative as possible, but should at least indicate what is covered.

Information-type chapter abstract

PSYCHOLOGY AND THE GIFTED CHILD[19]

A critique of the concept of giftedness concludes that the gifted may be divided into the intellectually capable who are not necessarily academically able, the academically able who must be intellectually capable, the student with hidden talent brought out by opportunity and desire rather than tests, and the highly creative student with minimal academic capacity (IQ of 115) plus an added factor. In a discussion of the special needs of the intellectually superior student for time to think, listen, dream, and converse, it is contended that while added activities should not be forced on the student, he should not be permitted a merely average performance. A discussion of the equity of special programs for gifted students considers advantages and disadvantages of intelligence grouping and acceleration of gifted students. Encouragement of personal independence and autonomy is deemed essential to the productive and innovative development of the gifted. Problems of social adjustment encountered by gifted children include social acceptability and the need to excel without seeming to work very hard. There is a paucity of data on gifted girls and women. The problems of underachievement and dropouts with high IQ scores are discussed.

Indicative-type chapter abstract

CYCLIC SULPHIDES[20]

Ring-opening polymerization of alkylene sulphides, episulphides, thioaldehydes, cyclic disulphides, and mixed oxygen-sulphur ring compounds are reviewed, with 83 references. Anionic polymerization, anionic copolymerization, cationic polymerization, coordinated ionic polymerization, and radical polymerization of episulphides, cyclic polymers of thioaldehydes, the polymerization of oxathiolanes, and the polymerization of cyclic disulphides are discussed.

EXAMPLE 5 – Order of document-content subject elements

A. Informative abstract with conventional order of elements (purpose, methodology, results, and conclusions)

NEMATODE CONTROL IN SWEET POTATOES[21]

Because damage to sweet potatoes by root-knot nematodes makes it difficult for some growers in Mississippi to produce marketable grades, the Truck Crops Branch Experiment Station in 1967 conducted off-station tests with nematocides (including fumigants) on three- or four-row replicated and randomized field plots known to be infested with the nematodes. Both known and experimental nematocides were employed. The commercial fumigants Vorlex, Dow W-85, and DD significantly increased yields and quality in the treatments of rows. Vorlex or Dow W-85 should be applied at 2,5 gal/acre and DD at 9 to 10 gal/acre, 8 to 10 in deep in the centre of the row, 14 to 30 days prior to planting. Broadcast fumigation was also effective, but required higher fumigant levels. Among the experimental solid nematocides, Bayer 68138 and Dasanit showed promise. More information is deemed necessary than was obtained from this one-season field test.

B. Informative abstract with findings-oriented arrangement of elements (major results and conclusions, supporting details, other findings, and methodology)

NEMATODE CONTROL IN SWEET POTATOES[21]

The yield and quality of sweet potatoes can be increased by soil fumigation or the addition of solid nematocides in some areas of Mississippi. The commercial fumigants Vorlex, Dow W-85, and DD significantly increased yields and quality in the treatments of rows. Vorlex or Dow W-85 should be applied at 2,5 gal/acre and DD at 9 to 10 gal/acre, 8 to 10 in deep in the centre of the row, 14 to 30 days prior to planting. Broadcast fumigation was also effective, but required higher fumigant levels. Among the experimental solid nematocides, Bayer 68138 and Dasanit showed promise. This study of control of root-knot nematodes was conducted by the Truck Crops Branch Experiment Station in 1967 on three- and four-row replicated and randomized field plots known to be infested with the nematodes. More information is deemed necessary than was obtained from this one-season field test.

C. Indicative abstract of the same document. This type of abstract is included here only to demonstrate the validity (usefulness) of preparing an informative abstract when the document permits it, as defined in clause 2.

NEMATODE CONTROL IN SWEET POTATOES[21]

Problems caused by root-knot nematodes in growing sweet potatoes in Mississippi are discussed. Experiments with commercial and experimental nematocides, conducted in 1967 by the Truck Crops Branch Experiment Station, are described. Methods of application including imbedding in rows and broadcasting are compared. Results are given for specific nematocides, including the commercial fumigants Vorlex, Dow W-85, and DD, and the experimental solid nematocides Bayer 68138 and Dasanit.

EXAMPLE 6 – Different locations of the bibliographic citation with abstracts in secondary publications

A. Secondary abstract preceded by full bibliographic citation. While this order is conventional, it may slow reader access to actual information, since even the document's title is usually subject-oriented rather than findings-oriented.

Anderson, John; Efron, Leonard; and Wong, S. Kuen. MARTIAN MASS AND EARTH-MOON MASS RATIO FROM COHERENT S-BAND TRACKING OF MARINERS 6 AND 7. *Science*, 167 (3916) Jan. 16, 1970 : 277-279. Range and Doppler tracking data from Mariners 6 and 7 have been used to obtain values for the ratio of the mass of the Earth to that of the Moon which are in substantial agreement with those determined from other Mariner and Pioneer spacecraft. There is an inconsistency of about 0,004 % in values for the mass of the Moon determined from lunar trajectories. A gravitation constant for Mars of 42 828,48± 1,38 km^3/s, obtained on the basis of data collected during the 5 days prior to the closest approach of Mariner 6 to Mars, is in excellent agreement with the result obtained by Null from tracking data of Mariner 4.

B. Secondary abstract followed by full bibliographic citation. This arrangement permits immediate presentation to the reader of the main findings of the document, an order particularly suitable for the findings-oriented arrangement of document-content elements (example 5B). Quick access to the bibliographic citation can be afforded by indenting it and/or by the use of distinctive type faces.

THE RATIOS OF THE MASS OF THE EARTH TO THE MOON OBTAINED FROM COHERENT S-BAND TRACKING OF MARINERS 6 AND 7 ARE IN SUBSTANTIAL AGREEMENT with those determined from other Mariner and Pioneer spacecraft. Range and Doppler tracking data from Mariners 6 and 7 yielded ratios having an inconsistency of about 0,004 % in values for the mass of the Moon determined from lunar trajectories. A gravitational constant for Mars of 42 828,48 ± 1,38 km^3/s, obtained on the basis of data collected during the 5 days prior to the closest approach of Mariner 6 to Mars, is in excellent agreement with the result obtained by Null from tracking data of Mariner 4.

Anderson, John; Efron, Leonard; and Wong, S. Kuen. MARTIAN MASS AND EARTH-MOON MASS RATIO FROM COHERENT S-BAND TRACKING OF MARINERS 6 AND 7. *Science*, 167 (3916) Jan. 16, 1970

C. Secondary abstract preceded by the title of the document, but with the remainder of the bibliographic citation suitably displayed after the text of the abstract. This arrangement presents the reader with the subject of the document as stated by its author, but then immediately presents the information provided. Quick access to the remainder of the biliographic citation can be afforded by indenting it and/or by the use of distinctive type faces.

MARTIAN MASS AND EARTH-MOON MASS RATIO FROM COHERENT S-BAND TRACKING OF MARINERS 6 AND 7. Range and Doppler tracking data from Mariners 6 and 7 have been used to obtain values for the ratio of the mass of the Earth to that of the Moon which are in substantial agreement with those determined from other Mariner and Pioneer spacecraft. There is an inconsistency of about 0,004 % in values for the mass of the Moon determined from lunar trajectories. A gravitational constant for Mars of 42 828,48 ± 1,38 km^3/s, obtained on the basis of data collected during the 5 days prior to the closest approach of Mariner 6 to Mars, is in excellent agreement with the result obtained by Null from tracking data of Mariner 4.

Anderson, John; Efron, Leonard; and Wong, S. Kuen. *Science*, 167 (3916) Jan. 16, 1970 : 277-279.

REFERENCES FOR EXAMPLE ABSTRACTS

1 FLIEGEL, Frederick C. University Park, Pa., Pennsylvania State University, Agricultural Experiment Station, 1966. 39p. (Bulletin 731).

2 SCHIERACK, H.; and BACKHAUS, H. *Gas Waerme Int.*, **19** Nov. 1970 : 432-436.

3 BARESEL, D., *et al. Angew. Chem., Int. Ed. Engl.*, **10** (3) Mar. 1971 : 194-195.

4 TAKAHASI, Taro; MAO, Ho Kwang; and BASSETT, W. A. *Science*, **165** (3900) Sept. 26, 1969 : 1352-1353.

5 BALDWIN, W. G. *Ark. Kemi*, **31** (32) : 1969 : 407-411.

6 BRILL, R.; KURZIDIM, J.; and RUCH, E. *Angew. Chem., Int. Ed. Engl.*, **10** (3) Mar. 1971 : 195.

7 SERIKOVA, L. A. *Neftepererab. Neftekhim. (Moscow)*, No. 2 : 1971 1-3.

8 SEILER, J. A. *Harvard Bus. Rev.*, 41(5) Sept.-Oct. 1963 : 121-132.

9 DOUGLAS, K. *Sv. Sjoefarts Tidning*, **66** July 1970 : 22*.

10 GROSSMAN, G. *Schiff Hafen*, **22**, 736*, Aug. 1970.

11 GANSCHIMETZ, D. *Schiff Hafen*, **22**, 979*, Nov. 1970.

12 WEYMUELLER, C. *Metal Progr.*, **95**(2) 1969 : 60-65.

13 VROMANT, M. *Rev. Ass. Fr. Tech. Pétrole*, No. 205 Jan.-Feb. 1971 : 99-101.

14 BOLZINGER, A. *Gaz Aujourd'hui*, **95** Jan. 1971 : 5-17.

15 BLACK, S. San Francisco, Calif., Society for Experimental Stress Analysis, 1968. 14p. (Fall Meeting Paper).

16 VAN DER ELST, M. *Chim. Ind. (Milan)*, **53**(5) May 1971 : 526-527.

17 HAYASHI, T. *Sekiyu Gakkai Shi*, **14**(3) Mar. 1971 : 195-197.

18 ILLINOIS STATE BOARD OF VOCATIONAL EDUCATION AND REHABILITATION. Springfield, Ill., 1968, 165p. (Series B, Bulletin 198).

19 FRENCH, J. L. Psychology and the gifted child. *In* : *New outlooks in psychology.* New York Philosophical Library, 1968 : 306-336.

20 SIGWALT, P. Cyclic sulfides. *In* : FRISCH, K. C. *Ring-opening polymerization.* New York, Marcel Dekker, 1969 : 191-217.

21 THOMAS, W. O.; and CAMPBELL, J. A. *Miss. Farm. Res.*, **31**(3) Mar. 1968 : 7.

* Complete pagination not available.

پیوست ۳. استاندارد ISO 5122 در خصوص تدوین صفحه حاوی چکیده

International Standard ISO 5122

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION•МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ•ORGANISATION INTERNATIONALE DE NORMALISATION

Documentation — Abstract sheets in serial publications

Documentation — Sommaires analytiques dans les publications en série

First edition — 1979-06-01

UDC 014.3 : 05 **Ref. No. ISO 5122-1979 (E)**

Descriptors : documentation, periodicals, articles of periodicals, abstract sheets, presentation.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO member bodies). The work of developing International Standards is carried out through ISO technical committees. Every member body interested in a subject for which a technical committee has been set up has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 5122 was developed by Technical Committee ISO/TC 46, *Documentation*, and was circulated to the member bodies in September 1977.

It has been approved by the member bodies of the following countries :

Australia	India	Poland
Austria	Iran	Romania
Belgium	Ireland	South Africa, Rep. of
Brazil	Israel	Spain
Bulgaria	Italy	Sweden
Czechoslovakia	Japan	Switzerland
Egypt, Arab Rep. of	Korea, Rep. of	USA
France	Mexico	USSR
Germany, F. R.	Netherlands	Yugoslavia
Hungary	New Zealand	

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Canada
Denmark
Finland

Printed in Switzerland

INTERNATIONAL STANDARD ISO 5122-1979 (E)

5122-79 4851903 0038145 9

Documentation — Abstract sheets in serial publications

0 INTRODUCTION

The abstract sheet in a periodical or other serial publication provides a detailed description of each article, giving such details as are essential for documentation work. The page is divided into blocks, each containing information about one article, arranged so that the least important details are at the head and foot of the block and can be left out when they seem superfluous. The heading of the abstract sheet provides the supplementary information necessary for obtaining the original document. The abstract sheet cannot in any way substitute for the contents page of the publication.

When the publishers prefer an abstract accompanying each article, it is recommended that the presentation be the same as for the blocks of the abstract sheet.

1 SCOPE AND FIELD OF APPLICATION

This International Standard sets out rules for the presentation of an abstract sheet in a periodical or other serial publication.

2 REFERENCES

ISO 4, *Documentation — International code for the abbreviation of titles or periodicals.*

ISO 8, *Documentation — Presentation of periodicals.*

ISO 214, *Documentation — Abstracts for publications and documentation.*

ISO/R 215, *Presentation of contributions to periodicals.*

ISO/R 639, *Symbols for languages, countries and authorities.*

ISO 690, *Documentation — Bibliographical references — Essential and supplementary elements.*

ISO 832, *Documentation — Bibliographical references — Abbreviations of typical words.*

ISO 833, *Documentation — International list of periodical title word abbreviations.*

ISO 3297, *Documentation — International standard serial numbering (ISSN).*

3 DEFINITION

abstract sheet : A page, preferably detachable, placed at the beginning or end of every periodical or other serial publication comprising more than one contribution, and including a bibliographic description and an abstract of each contribution.

4 TEXT OF ABSTRACT SHEET

(See examples on pages 3 and 4.)

4.1 Heading

The heading shall contain the following information, which is excluded from the blocks :

1) title of the serial publication in bold type;

2) ISSN (International Standard Serial Number);

3) date in full of the issue;

4) source of the classification;

5) source of descriptors used in the blocks;

6) permission to reproduce abstract sheet(s).

4.2 Blocks

Each block shall contain the following elements, which should comply with ISO 690, presented in the order shown :

1) number(s) UDC or numbers of other international system of classification;

2) name(s) of author(s) with forename(s) (in the form in which they appear);[1)]

3) [author's (authors') professional affiliations and place of work];

4) title and subtitle in the original language of the article;[1)]

5) [translation of the title into the language of the abstract sheet];

6) [language in which the article was published, coded in accordance with ISO/R 639];

1) Transliterated or transcribed when necessary.

7) details of source (complying with ISO 690) including the following elements presented in the order shown :

a) title of the serial publication (for abbreviation, see ISO 4, ISO 832 and ISO 833 and supplements); however, the key-title in full or abbreviated, should preferably be used;

b) nominal date of publication (in brackets);

c) volume number, if applicable;

d) issue number;

e) collation (first and last page of the article, figures, tables, references);

8) abstract of the article (complying with ISO 214);

9) descriptors or free terms.

5 PHYSICAL PRESENTATION

(See examples on following pages.)

5.1 Size, paper, print

The abstract sheet shall be of the same size as the rest of the publication and shall be printed in such a way as to facilitate its reading and reproduction.

The printed area of a block on the abstract sheet shall have a maximum width of 95 mm and a maximum height of 64 mm, in order to be small enough to be filed on ISO A7 size documentation cards.

5.2 Arrangement in an issue of a serial publication

The abstract sheet shall always be in the same position in each issue.

It shall be printed on pages separate from the main part of the document and shall not be included in the pagination of the issue.

6 LANGUAGE(S) OF ABSTRACT SHEET

The abstract sheet shall be given in the language of the publication and in at least one of the three official ISO languages (English, French and Russian).

It may not be convenient for translated blocks and those in the original language to appear on the same page. On the other hand, if blocks in the original language occupy only part of the page of the abstract sheet, the other part may be used for translated blocks or, failing that, for any other editorial matter.

In any case, the number of pages of abstract sheets in each language shall be as few as possible.

The original language of an article shall always be identified.

EXAMPLE OF AN ABSTRACT SHEET IN ENGLISH ISO 5122-1979 (E)

JOURNAL OF ENGINEERING

ISSN 1234-5679 Date of issue : 1970-03-27

The descriptors given are free terms. This abstract sheet may be reproduced without permission or charge.

UDC 62-057.4 : 368.1

Pletcher, E. (Technical Insurance Ltd., London) :

The Insurance Engineer

J. Eng. March 1970, vol. 64 no. 3, p. 249-255

The technical demands made on the insurance engineer are outlined, the tasks required of him listed, and the main fields of operation given.

(Author).

Free terms : insurance, engineer, profession

UDC 377.5 : 62

Kapinski, A. (London University) :

Countering the Obsolescence of Technical Knowledge.

J. Eng. March 1970, vol. 64 no. 3, p. 256-261, 3 ref.

In 1969, vol. 63 no. 11 of this journal, a survey carried out by S.B. Zollkoff on the subject "Obsolescence of the Technical Knowledge of Engineers" formed the basis of a detailed discussion. Two letters and comments received in connection with this contribution have now been evaluated. They indicate the necessity and problems of advanced training for engineers.

(A.F. Wells).

Free terms : training (complementary), engineer

UDC 66.011.003 UDC 657.47 : 66

Syper, L. (World Chemical Co., New York) :

Estimating the Costs of Process Engineering Projects.

J. Eng. March 1970, vol. 64 no. 3, p. 262-273, 4 tab.

When developing new processes an estimation is essential of the costs of capital and operation of the proposed plant. There are different ways to compile suitable data, e.g. from the costs of capital and operation of older and newer plants or from semi-technical experimental plants, to analyse and evaluate these data by graphical methods in order to retain reliable methods.

(J. Smith).

Free terms : chemical engineering, cost accounting

UDC 331.054 : 007

Noyes, B.R. (Académie du Travail, Lyon) :

Cybernetic Correlations between Man and Industry.

J. Eng. March 1970, vol. 64 no. 3, p. 274-280, 5 ref.

After a survey of historical events an attempt is made to interprete the notion of cybernetics with regard to the inter-relationship between man and industry. By his planning and even in a highly automated industry Man is still the centre of action. The mastery of a technological system by Man reaches its limit when the quantity of information to be absorbed and digested exceeds the narrowness of this conception.

(Author).

Free terms : industrial relations, manpower, cybernetics

UDC 624.04 : 66.023

Peters, G. (Chemiebau AG, Essen) :

Berechnung und Konstruktion zylindrischer und sphärischer Druckgefäße. Teil 1. (Calculation and Design of Cylindrical and Spherical Pressure Vessels. Part 1.) (Orig. D).

J. Eng. March 1970, vol. 64 no. 3, p. 281-285, 3 ill., 10 tab., (to be continued)

A representation is given of the stresses in walls of cylindrical and spherical pressure vessels and the calculation of them. The modes of computing are compared with the utilization formulae of rules and the limits of application of them are subject of a discussion. Influence of thermal stresses and those due to other causes are treated. Construction rules are derived and the development of multilayered vessels is outlined.

(W. Jones).

Free terms : pressure vessel, calculation, design

UDC 628.113.5

Kunst, R., Svenson, B. (Royal Chemical Works Inc., Manchester) :

Optimization of Flash Distillation Plants for Saline Water.

J. Eng. March 1970, vol. 64 no. 3, p. 286-291, 5 tab.

An approach to the problem of economical design of flash distillation plant for saline water desalting is outlined using small and medium size computers. An optimization programme for basic design, approximate lay-out, and minimum search expenditure is given. Results show various correlated aspects of economics. Research covered flash distillation plant heated by fuel oil, diesel engine exhaust gas, and dual purpose oil-fired steam power stations.

(A. Erkland).

Free terms : water (saline), sea water, distillation, design, chemical plant

UDC 535.65

Schwarz, G. (Farbe und Lack AG, Leverkusen) :

Kolorimetrie ohne Berechnungen und ohne Auswertung von Diagrammen. (Colorimetry without Calculations and without Interpretation of Diagrams) (Orig. D).

J. Eng. March 1970, vol. 64 no. 3, p. 292-298, 3 tab., 4 ill., 10 ref.

Methods are given for treating colorimetric problems in plants and laboratories without calculations and without use of any diagram. The device developed is sensitive enough to detect small color deviations and gives some instruction for the removal of them.

(Author).

Free terms : colorimetry, diagrammes, calculations

5122-79 4851903 0038147 2

ISO 5122-1979 (E) EXAMPLE OF AN ABSTRACT SHEET IN FRENCH

JOURNAL OF ENGINEERING

ISSN 1234-5679 Date de la publication : 1970-03-27

CDU 62-057.4 : 368.1

Pletcher, E. (Technical Insurance Ltd., London) :

The Insurance Engineer. (L'Ingénieur d'assurances) (Orig. E).

J. Eng. March 1970, vol. 64 no. 3, p. 249-255

Les compétences techniques exigées d'un tel ingénieur sont exposées, ses devoirs définis et les activités de cette branche professionelle sont décrites.

(Auteur).

Mots-clés libres : assurance, ingénieur, profession

CDU 377.5 : 62

Kapinski, A. (London University) :

Countering the Obsolescence of Technical Knowledge. (Contre le vieillissement des connaissances techniques) (Orig. E).

J. Eng. March 1970, vol. 64 no. 3, p. 256-261, 3 ref.

En 1969, vol. 63 nº 11 de cette revue, les recherches de S.B. Zolkoff sur le vieillissement des connaissances de l'ingénieur firent l'objet d'une discussion détaillée. Deux lettres et commentaires reçus sont maintenant exploités. Ils montrent la nécessité et les problèmes de l'enseignement post-scolaire de l'ingénieur.

(A.F. Wells).

Mots-clés libres : enseignement post-scolaire, ingénieur

CDU 66.011.003 CDU 657.47 : 66

Syper, L. (World Chemical Co., New York) :

Estimating the Costs of Process Engineering Projects. (Évaluation des frais des projets techniques dans l'industrie chimique) (Orig. E).

J. Eng. March 1970, vol. 64 no. 3, p. 262-273, 4 tab.

Dans le développement de nouveaux procédés, les évaluations des frais d'investissement et d'exploitation pour l'installation projetée sont indispensables. Les manières d'obtenir et grouper des valeurs sont démontrées, basées par exemple sur les frais d'investissement et d'exploitation d'installations plus anciennes ou nouvelles ou de dispositifs d'essai semi-industriels. Des méthodes d'analyse de ces valeurs et de leur groupement à l'aide des méthodes graphiques aident à aboutir à des valeurs d'évaluation sensiblement exactes.

(J. Smith).

Mots-clés libres : industrie chimique, comptabilité

CDU 331.054 : 007

Noyes, B.R. (Académie du Travail, Lyon) :

Cybernetic Correlations between Man and Industry. (Action réciproque cybernétique entre l'homme et l'industrie) (Orig. E).

J. Eng. March 1970, vol. 64 no. 3, p. 274-280, 5 ref.

Après un rappel historique, l'article tente d'interpréter la notion de cybernétique au point de vue des rapports entre l'homme et la technique. Même dans une technique fortement automatisée, l'homme reste au centre de l'action. L'homme cesse de contrôler un système technique dès que le nombre des informations à recueillir et à exploiter intellectuellement dépasse les limites de sa connaissance.

(Auteur).

Mots-clés libres : relations industrielles, personnel, cybernétique

CDU 624.04 : 66.023

Peters, G. (Chemiebau AG, Essen).

Berechnung und Konstruktion zylindrischer und sphärischer Druckgefäße. Teil 1. (Calcul et construction des récipients de pression cylindriques et sphériques. Part 1.) (Orig. D).

J. Eng. March 1970, vol. 64 no. 3, p. 281-285, 3 ill., 10 tab., (à suivre)

Les efforts des parois des récipients de pression cylindriques et sphériques sont calculés. Les méthodes de calcul sont comparées aux formules pratiques et les limites d'application de celles-ci sont discutées. L'influence des tensions thermiques et d'autre origine est traitée. Des règles de construction y sont dérivées et le développement des récipients à deux couches et plus est présenté.

(W. Jones).

Mots-clés libres : récipients de pression, calcul, construction

CDU 628.113.5

Kunst, R., Svenson, B. (Royal Chemical Works Inc., Manchester) :

Optimization of Flash Distillation Plants for Saline Water. (Optimisation d'installations d'évaporation flash pour l'eau de mer) (Orig. E).

J. Eng. March 1970, vol. 64 no. 3, p. 286-291, 5 tab.

Un calcul pour optimaliser le dimensionnement économique des installations d'évaporation flash pour obtenir l'eau douce à partir d'eau de mer, à l'aide des ordinateurs électroniques petits et moyens. Le programme d'optimisation se compose de dimensionnement approximatif, calcul approximatif et recherche du minimum. Les résultats montrent différentes connexions importantes du point de vue économique. En détail est examinée l'évaporation flash des moteurs Diesel et en cas de compoundage avec des centrales d'énergie à vapeur chauffées à l'huile.

(A. Erkland).

Mots-clés libres : eau (saline), eau de mer, distillation flash, calcul, construction, usines chimiques, économie

CDU 535.65

Schwarz, G. (Farbe und Lack AG, Leverkusen) :

Kolorimetrie ohne Berechnungen und ohne Auswertung von Diagrammen. (La colorimétrie appliquée sans calculs et sans élaboration de diagrammes) (Orig. D).

J. Eng. March 1970, vol. 64 no. 3, p. 292-298, 3 tab., 4 ill., 10 ref.

On décrit un appareillage capable de résoudre sans calculs et sans élaboration de diagrammes des problèmes de colorimétrie dans les laboratoires et ateliers de l'industrie. L'appareillage fonctionne assez sensiblement afin de faciliter la détermination de la différence de teinte et indique les possibilités de correction.

(Auteur).

Mots-clés libres : colorimétrie, diagrammes, calculs

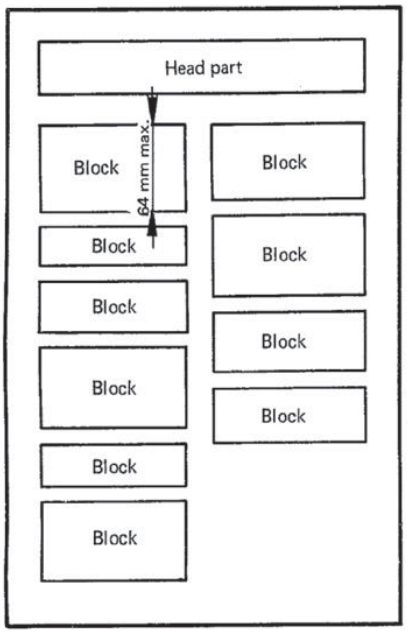
5122-79 4851903 0038148 4

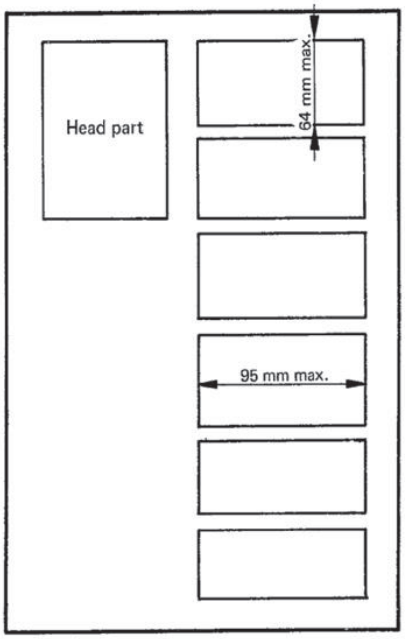
5122-79 4851903 0038149 6 ISO 5122-1979 (E)

EXAMPLES OF PHYSICAL PRESENTATION

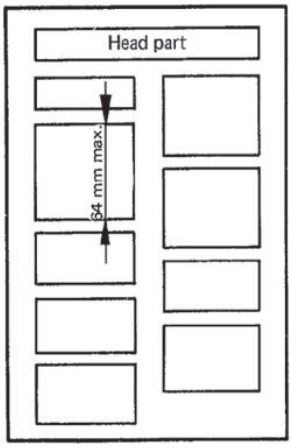
(Paper sheet sizes according to ISO 216)

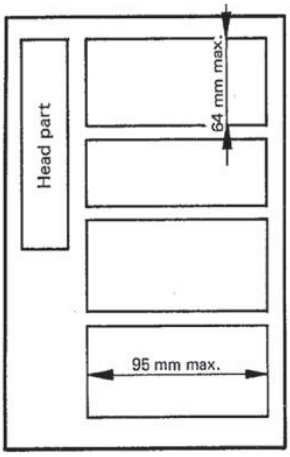
Sheet size ISO A4

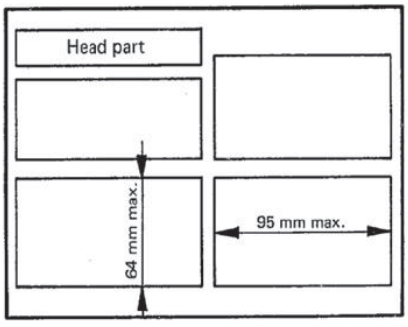




Sheet size ISO A5







پیوست ۴. استاندارد NISO Z3914 در خصوص تدوین چکیده

ANSI/NISO Z39.14-1997
Revision of ANSI Z39.14-1979 (R1987)
ISSN: 1041-5653

Guidelines for Abstracts

Abstract: Guidance is presented for authors and editors preparing abstracts that represent the content of texts reporting on the results of experimental work or descriptive or discursive studies. Suggestions for the placement of abstracts within publications or other media are given, along with recommendations for abstracting specific documents. Types of abstracts and their content are described. Also included are suggestions on the style of abstracts and a list of selected readings on the subject of abstracting. Examples of abstracts are appended.

An American National Standard
Developed by the
National Information Standards Organization

Approved November 27, 1996 by the
American National Standards Institute

NISO Press

Bethesda, Maryland, U.S.A.

Published by
NISO Press
4733 Bethesda Avenue
Bethesda, MD 20814

Printed in the United States of America

ISSN: 1041-5653 National Information Standards series
ISBN: 1-880124-31-9

This paper meets the requirements of ANSI/NISO Z39.48-1992 (Permanence of Paper).

Library of Congress Cataloging-in-Publication Data

National Information Standards Organization (U.S.)
Guidelines for abstracts.
p. cm. — (National information standards series, ISSN 1041-5653)
"An American national standard developed by the National Information Standards Organization, approved November 27, 1996 by the American National Standards Institute."
"ANSI/NISO Z39.14-1997."
ISBN 1-880124-31-9
1. Abstracting—Standards—United States. I. American National Standards Institute. II. Title. III. Series.
Z695.9.N355 1997
025.4'028—dc21 97-10459
CIP

Contents

Foreword

(This foreword is not part of the American National Standard Guidelines for Abstracts, ANSI/NISO Z39.14-1997. It is included for information only.)

The growing volume of documents or texts containing information that warrants abstracting makes a well-prepared abstract increasingly important. Basic content must be quickly identifiable, both by readers of the primary literature and by users of access services (sometimes also referred to as secondary, database, or abstracting and indexing services). Authors and editors can help users to readily identify content by beginning a primary document or text with a meaningful title and a well-prepared abstract. Indeed, authors must bear in mind that many people will selectively read no more than these components of their writings.

In addition to the need for authors to write good abstracts for increasingly selective reading, it is also desirable for them to write abstracts that access services can reproduce with little or no change, copyright permitting. Always important to users of traditional access publications, abstracts have also proved to be of considerable importance to users of electronic bibliographic services such as online searching and selective dissemination of information (SDI) alerting, including systems employing full-text search. Abstracts that are well-prepared by authors ensure the accuracy of content and avoid unnecessary duplication of intellectual effort. As the quality of abstracts increases, so does the number of abstracts that can be directly employed by these access services, and thus the quality of the services for users.

This standard is the second revision of the American National Standard for Writing Abstracts, ANSI Z39.14-1971, which was prepared by Subcommittee 6 of the then-American National Standards Committee on Standardization in the Field of Library Work, Documentation, and Related Publishing Practices, Z39 (now NISO). The first revision of ANSI Z39.14-1971 was issued as ANSI Z39.14-1979.

This current revision is based on several comments received in 1992 from NISO members during their review of ANSI Z39.14-1979. It incorporates helpful changes and additional examples from ISO 214-1976, the International Standard on Abstracts for Publications and Documentation. The International Standard was developed between 1971 and 1975 by an ad hoc Working Group of ISO/TC 46, headed by the chairman of Z39/Subcommittee 6. It was largely based on ANSI Z39.14-1971.

It is pertinent to review briefly here how the original edition, ANSI Z39.14-1971, was prepared. Subcommittee 6 was appointed in January 1969 to complete the task of drafting a standard on writing abstracts, an assignment begun by two previous subcommittees. The new subcommittee drew heavily on the work of its predecessors and on a guide prepared by the International Union of Pure and Applied Physics, the American Institute of Physics, and UNESCO. The subcommittee members were chosen for their expertise in the writing and editing of papers, journals, and reports; the preparation of abstracts, including their computer searching; and the teaching of abstracting. Thus, members represented both discipline and mission orientations, and were involved in the communication of knowledge in such diverse fields as education, psychology, chemistry, physics, and biology.

Copies of the draft of the standard were sent to groups working on national and international standards on abstracting, to all members of the Z39 Committee, and to many individuals and groups known to be concerned with the writing of abstracts. The draft was then extensively revised to take into account the more than 50 substantive comments that were received.

In the years since this standard was first issued authors and editors in many primary publications have followed its principles. In the same period, its principles have also effected changes in the practices of major access services.

The current revision committee has focused on the differences in form and content between informative and indicative abstracts; the topics of structural abstracts, electronic abstracts, information retrieval, and the content of abstracts; and on renaming the standard. Additionally, the committee has expanded the list of selected readings on the subject of abstracting and added new examples of abstracts.

This standard was processed and approved for submittal to ANSI by the National Information

(continued)

Standards Organization. It was balloted by the NISO Voting Members April 30, 1996–July 31, 1996. It will next be reviewed in 2002. Suggestions for improving this standard should be sent to the National Information Standards Organization, 4733 Bethesda Avenue, Bethesda, MD 20814, telephone (301) 654-2512. NISO approval of this standard does not necessarily imply that all members voted for its approval. At the time it approved this standard, NISO had the following members:

NISO Voting Members

3M
Richard W. Lindahl
Robert L. Dreger (Alt)
Gerald G. Marsolek (Alt)

American Association of Law Libraries
Andrew Laurence

American Chemical Society
Robert S. Tannehill, Jr.
Leon R. Blauvelt (Alt)

American Library Association
Carlen Ruschoff

American Society for Information Science
Mark H. Needleman

American Society of Indexers
Patricia S. Kuhr
Marie Kascus, (Alt)

American Theological Library Association
Myron B. Chace

Ameritech Library Services, Academic Division
John Kolman

Amoco Corporation
Randy R. Reddemann

Apple Computer, Inc.
Janet Vratney
Rita Brennan (Alt)

Armed Forces Medical Library
Diane Zehnpfennig
Beth Knapke (Alt)

Art Libraries Society of North America
Thomas E. Young
Penney DePas (Alt)

Association of Information and Dissemination Centers
Bruce H. Kiesel

Association for Information and Image Management
Judy Kilpatrick

Association of Jewish Libraries
Pearl Berger
David Gilner (Alt)

Association of Research Libraries
Duane E. Webster

Bell Labs
M. E. Brennan

CASPR, Inc.
Norman Kline
Brian Lomeli (Alt)

CARL Corporation
Ward Shaw

College Center for Library Automation
J. Richard Madaus
Ann Armbrister (Alt)

Data Research Associates, Inc.
Michael J. Mellinger
James Michael (Alt)

Data Research Users Group, Inc.
Beth F. Anderson

EBSCO Information Services
Sandra H. Hurd
Mary Beth Vanderpoorten (Alt)

Elsevier Science Incorporated
John Mancia
Norman Paskin (Alt)

The Faxon Company
Alan Nordman

Follett
D. Jeffrey Blumenthal
Michael Marchuk (Alt)

Gaylord Information Systems
James English
William Schickling (Alt)

GCA Research Institute
Christopher Ziener
Norman Scharpf (Alt)

Geac Computers, Inc.
Simon Kendall
B. J. Mitchell (Alt)

IBM Corporation
Tryg Ager

IEEE
Anthony J. Ferraro

Indiana Cooperative Library Services Authority
Millard Johnson
Janice Cox (Alt)

Information Access Company
Delores Meglio
Victoria Gray (Alt)

Innovative Interfaces, Inc.
Gerald M. Kline
Sandra Westall (Alt)

Knight-Ridder Information, Inc.
Richard Boulderstone
David Loy (Alt)

Lexis-Nexis
Peter Ryall

Library Binding Institute
Sally Grauer

Library of Congress
Winston Tabb
Sally H. McCallum (Alt)

Medical Library Association
Katherine Hughes
Carla J. Funk (Alt)

MINITEX
Anita Anker Branin
William DeJohn (Alt)

Music Library Association
Lenore Coral
Geraldine Ostrove (Alt)

National Agricultural Library
Pamela Q. J. Andre
Gary K. McCone (Alt)

National Archives and Records Administration
Alan Calmes

National Federation of Abstracting and Information Services
John Schnepp

National Library of Medicine
Lois Ann Colaianni

OCLC, Inc.
Donald J. Muccino

OHIONET
Michael P. Butler
Greg Pronevitz (Alt)

OhioLINK
David Barber

PALINET
James E. Rush

Readmore Academic Services
Sandra J. Gurshman
Amira Aaron (Alt)

The Research Libraries Group, Inc.
Wayne Davison
Kathy Bales (Alt)

R. R. Bowker
Emery Koltay

R. R. Donnelley & Sons, Co.
Sidney P. Marland III

SilverPlatter Information, Inc.
Peter Ciuffetti
Barbara Bishop (Alt)

SIRS, Inc.
Leonardo Lazo
Harry Kaplanian (Alt)

Society of American Archivists
Lynn Lady Bellardo

Society for Technical Communication
Connie Bibus
Kevin Burns (Alt)

Special Libraries Association
Marjorie Hlava

SUNY/OCLC
Liz Lane

UMI
Blake Ratcliffe
Jim Tumolo (Alt)

U.S. Department of the Army, Headquarters
Paula E. Vincent

U.S. Department of Commerce, National Institute of Standards and Technology, Office of Information Services
Paul Vassallo
Jeff Harrison (Alt)

U.S. Department of Defense, Defense Technical Information Center
Gretchen A. Schlag
Claire Tozier (Alt)

U.S. Department of Energy, Office of Scientific and Technical Information
Mary Hall
Nancy Hardin (Alt)

U.S. National Commission on Libraries and Information Science
Peter R. Young

VTLS, Inc.
Vinod Chachra

West Publishing Company
Andy Desmond
Forrest Rhoads (Alt)

Winnebago Software
Bob Engen
Carol E. Blagsvedt (Alt)

The H.W. Wilson Company
George I. Lewicky
Ann Case (Alt)

(Foreword continued)

NISO Board of Directors

At the time NISO approved this standard, the following individuals served on its Board of Directors:

Michael J. McGill, Chair
University of Michigan Medical Center

Joel H. Baron, Vice Chair/Chair-elect
Dawson Holdings PLC

Michael J. Mellinger, Immediate Past Chair
Data Research Associates, Inc.

Patricia R. Harris, Executive Director
National Information Standards Organization

Directors Representing Libraries

Nolan Pope
University of Wisconsin-Madison

Clifford Lynch
University of California

Lenny Stovel
Research Libraries Group, Inc.

Directors Representing Information Services

Howard Turtle
West Publishing Company

John Kolman
Ameritech Library Services, Academic Division

Vinod Chachra
VTLS, Inc.

Directors Representing Publishing

Marjorie Hlava
Access Innovations, Inc

Robert C. Badger
Springer-Verlag NY, Inc.

Elizabeth Bole Eddison
Inmagic, Inc.

Standards Committee AG

Standards Committee AG on Guidelines for Abstracts had the following members at the time this standard was approved:

Edward T. Cremmins, Chair

Timothy Craven
Graduate School of Library and Information Science,
The University of Western Ontario

Eileen Dolan
John Wiley & Sons

Boris Jakim
American Institute of Aeronautics & Astronautics

Roger L. Moody
Chemical Abstracts Service

Adam Philippidis
IEEE

Michael Rinehart
BHA/Bibliography of the History of Art, Getty Art
History Information Program

ANSI/NISO Z39.14-1997

Guidelines for Abstracts

1. Introduction

In this standard, the term *abstract* signifies a brief, objective representation of the contents of a primary document or an oral presentation. The term *abstract* should not be confused with the related but distinct terms: *annotation, extract, summary,* and *synoptic* (see Section 3, Definitions).

Superscript numbers are keyed to the references listed on page 5.

1.1 Purpose

This standard is intended to guide authors and the staffs of access services in preparing abstracts of maximum usefulness.

1.2 Scope

The recommendations of this standard apply to all abstracts whether written by the author(s) of a document or by anyone else, and whether they accompany the document, appear in access publications or services, or as separately published representations of formal oral presentations.

2. Referenced Standards

This standard is intended to be used in conjunction with the following standards. When these standards are superseded by revisions, the revisions shall apply.

ANSI Z39.5-1985, Abbreviation of Titles and Publications.
ANSI/NISO Z39.18-1995, Scientific and Technical Reports—Elements, Organization, and Design.

3. Definitions

Abstract—A brief and objective representation of a **document** or an oral presentation.

Access publication or service—A print- or computer-based collection of **abstracts** and bibliographic references that serve as alerting or retrospective access keys, or both, to original documents.

Annotation—Brief explanation of a document or its contents, usually added as a note to clarify a title.

Controlled vocabulary—A list of terms that may be used for indexing.[1]

Critical abstract—Uncommon form of abstract that contains evaluative comments on the significance of the material abstracted or the style of its presentation. The comments are written by abstractors who are usually subject-area specialists. See Example V-A in the Appendix.

Descriptor—A **term** chosen as the preferred representation for a concept or feature in an index.[1]

Document—An item, printed or otherwise, that is amenable to abstracting; applicable not only to written and printed materials in paper or microform versions (e.g., books, journals, maps, diagrams), but also to nonprint media (e.g., machine-readable records, transparencies, audiotapes, videotapes) and, by extension, to three-dimensional objects or realia (e.g., museum objects and specimens).[2]

Electronic abstract—One that is contained in an electronic publication.

Extract—One or more portions of a document selected to represent the whole.

Free-text search—Information retrieval search using natural-language terms appearing in documents or their descriptions.[1]

Identifier—A proper name (or its abbreviation) of a person, institution, place, object, operation or process, optionally treated as a type of term distinct from **descriptor**.[1]

Keyword—A word occurring in the natural language of a document or its surrogate that is considered significant for indexing and retrieval.

Slanted abstract—One designed to represent a particular portion of, or a particular perspective on, a document for the benefit of a specialized audience. See Example V-B in the Appendix.

Structured abstract—An abstract that is arranged according to prescribed headings. See Example I-I in the Appendix.

Summary—A brief restatement within a document (usually at the end) of its salient findings

and conclusions intended to complete the orientation of a reader who has studied the preceding text.

Synoptic—A concise original publication of key results selected from an available but previously unpublished paper. It differs from an abstract (which it may contain) in that it is usually longer.

Term—A word or phrase used to represent a topic or feature of a documentary unit in an index.[1]

4. Purpose, Location, and Authorship

The purpose, location, and authorship of abstracts are three aspects of preparation that enhance an abstract's usefulness.

4.1 Purpose

A well-prepared abstract enables readers (a) to identify the basic content of a document quickly, (b) to determine its relevance to their interests, and thus (c) to decide whether they need to read the document in its entirety. The abstract may facilitate a closer reading of the primary document by providing an introductory overview of its topic or argument, or, for readers to whom the document is of marginal interest, the abstract may provide enough information to make a reading of the full document unnecessary. Abstracts also may render the primary content of a document in another language accessible in the language of the abstract.

An abstract also facilitates free-text searching in an electronic environment and supports the application of controlled indexing vocabularies in access services. Since abstracts originally intended to accompany a primary publication may also be used by access services, these objectives should be considered from the outset.

4.2 Location

In a journal an abstract should be placed on the first page of each abstracted item between the title and the beginning of the text. In a separately published document the abstract should be placed between the title page and the text. Abstracts of separate chapters should appear under each chapter title on the first page of its text.

In access publications and databases, or whenever an abstract is reproduced separately from the document to which it refers, it should be accompanied by a full bibliographic reference for the original document.

In electronic formats the abstract should constitute a defined and searchable field accompanied by fields indicating (a) the bibliographic description of the primary document, (b) the author or source of the abstract, and, optionally, (c) the language of the abstract.

4.3 Authorship

When an abstract is used by an access service, its authorship may be unattributed or indicated, normally following the abstract, in one of the following ways:

Author
Author (edited)
Author (revised)
Name of the access service or other source providing the abstract
Name or initials of the abstractor

5. Recommendations for Specific Documents

The following recommendations for abstracts are intended to guide authors and editors of specific documents and publications, whether printed or electronic. This list is not exhaustive; however, it covers many commonly encountered document types, including journals, reports, monographs, books, proceedings, patents, and standards.

5.1 Journals

Irrespective of publication media, an abstract should be included with every journal article or synoptic, essay, and discussion. When resources permit it, access services should also provide brief abstracts for substantive notes, reviews, editorials, and letters to the editor.

5.2 Monographs, Books, Proceedings, and Technical Reports

A single comprehensive abstract should be included in every monograph, book, or proceedings. This may be sufficient if the volume deals with a homogeneous subject, but separate abstracts are also necessary for each chapter or section if the volume covers different topics or is a collection of articles by different authors, for example, the proceedings of a meeting or symposium (see Example IV-B in the appended examples of abstracts). An abstract should also be included in all technical reports.

5.3 Restricted-Access Documents

For a restricted-access document, for example, a report that has been given a government security classification, it is highly desirable to provide a non-restricted-access abstract.

5.4 Patents

An abstract of the disclosure should be included in every United States patent, prepared in accordance with guidelines established by the United States Patent and Trademark Office.[3]

5.5 Standards

An abstract should be included as part of each standard, whether international, regional, national, or industrial. The abstract should contain information on the object and field of application of the standard.

6. Types of Abstracts and Their Content

Abstracts are generally described as either informative or indicative, reflecting the mode or perspective in which they are written. In the informative mode, the original document is condensed, reflecting its tone and content. An abstract written in the indicative mode describes rather than paraphrases the original document and its contents. The mode employed in a particular situation depends on the purpose of the abstract. Both types of abstracts should present as much as possible of the essential information contained in the text.

6.1 Informative Abstracts

Informative abstracts are generally used for documents pertaining to experimental investigations, inquiries, or surveys. These abstracts state the purpose, methodology, results, and conclusions presented in the original document. While most abstracts describing experimental work can be constructed in this sequence, the optimum sequence may depend on the audience for whom the abstract is primarily intended. For example, a results-oriented arrangement, in which the most important results and conclusions are placed first, may be useful to some audiences.

6.2 Indicative Abstracts

Indicative abstracts are best used for less-structured documents, such as editorials, essays, opinions or descriptions; or for lengthy documents, such as books, conference proceedings, directories, bibliographies, lists, and annual reports. Indicative abstracts are usually written for documents that do not contain information relating to methodology or results. The abstract should, however, describe the purpose or scope of the discussion or descriptions in the document. Also, it may describe essential background material, the approaches used, and/or arguments presented in the text.

In practice, original documents may contain elements that necessitate an abstract that combines the indicative and informative approaches. For example, a largely descriptive paper may contain an informative conclusion (see Example III-A in the appended examples of abstracts).

6.3 Content Elements

A complete abstract contains specific elements.

6.3.1 Purpose

State in the abstract the primary objectives and scope of the study or the reasons the document was written. Because abstracts are often expected to be read in conjunction with the title, avoid the use of statements that are, or closely resemble, verbatim versions of the title. Refer to earlier research literature only if doing so is essential in order to clarify the purpose of the document.

6.3.2 Methodology

Describe techniques or approaches only to the degree necessary for comprehension. Report new techniques or applications when emphasized in the original document.

6.3.3 Results

Describe results as concisely and informatively as possible. They may be experimental or theoretical results obtained, data collected, relationships and correlations noted, effects observed, etc. When results are too numerous for all of them to be included, those pertaining to new and verified events or that contradict previous theories should receive priority.

6.3.4 Conclusions

Describe the implications of the results, especially how they relate to the purpose of the investigation or the reason for preparing the document. Conclusions can be associated with recommendations, evaluations, applications, suggestions, new relationships, and hypotheses accepted or rejected.

6.3.5 Collateral and Other Information

Findings or information incidental to the main purpose of the document but of value outside its major subject area may be included. Report these clearly but in such a way that they do not distract from the main theme. Do not exaggerate in the abstract their relative importance in the source document.

Cite background information from the document sparingly if at all. Do not include information or claims not contained in the document itself.

Access services may choose to include further details about the document, such as the presence of extensive tables, illustrations, indexes, and the number of bibliographic references.

7. Style

An abstract must be intelligible to a reader without reference to the document it represents. For clarity, avoid using footnotes, lists of references, or references to the text of the original document. Retain the balance and emphasis of the original documents, except in a slanted abstract. Be concise, fulfill content requirements, but do not be cryptic or obscure. For coherence, use transitional words and phrases.

7.1 Length

The length of an abstract differs according to the type of document being abstracted and the ways the abstract is to be used. If length is not specified the following lengths are usually adequate:

Document	Maximum Length of Abstract
papers, articles, portions of monographs	250 words
notes, short communications	100 words
editorials, letters to the editor	30 words
long documents such as monographs and theses	single page, 300 words

To avoid biasing retrieval results, an abstract's length and the number of keywords appearing in it should be appropriate to the potential usefulness of the document abstracted.

7.2 Paragraphing and Structured Abstracts

Generally, write the abstract as a single paragraph. In structured abstracts, however, the major points of the text are presented in several labeled paragraphs rather than a single one (see Example I-I in the appended examples of abstracts).

7.3 Complete Sentences

Generally, use complete sentences. Where incomplete sentences are used, they should be clear and coherent, for example:

> Survey of efforts of Renaissance architects to interpret Vitruvius's description of the ancient Roman house. [Deleted verb.]

> Examines the ideological relations of the Holy Sepulchre, as manifested in writings, ceremonies, and architecture. [Deleted subject.]

See also Examples II-H and II-I in the appended examples of abstracts.

7.4 First Sentences

In the first sentence of an abstract, avoid naming the type of document (e.g., "This article evaluates," "This essay examines," or "This study presents") when this information may be inferred from the title, bibliographic reference, or the text of the full abstract.

7.5 Use of Active Verbs

Use verbs in the active voice whenever possible. However, the passive voice may be used for indicative statements and even for informative statements in which the receiver of the action should be emphasized. For example:

Say: "Iron-containing bauxites sweeten gasolines in the presence of air."
Not: "Gasolines are sweetened by iron-containing bauxites in the presence of air."
But: "The relative adsorption coefficients of ether, water, and acetylene were measured by...."

7.6 Terminology

Avoid unfamiliar terms, acronyms, abbreviations, and symbols, or define them the first time they occur in an abstract. Within access services and as an aid to electronic searching, include terms that complement any descriptors or identifiers that

may be assigned to the document. Words or phrases used as descriptors or identifiers may also be included in the abstract.

For the purposes of electronic retrieval, abstracts should have terminology that (a) expresses terms both in their abbreviated form and in their spelled-out form (it is common to present the fully spelled-out form on the first use of the term), (b) does not use negatives (e.g., "unhealthy" or "sick" rather than "nonhealthy"), and (c) places words directly adjacent to other words to represent concepts (e.g.,"middle class and working class" rather than "middle and working class").

7.7 Nontextual Materials

Include short tables, equations, structural formulas, and diagrams only when they are necessary for brevity and clarity and when no acceptable alternative exists.

7.8 Treatment of Added Details

Access services that choose to include further details about the document itself (see Section 6.3.5) should place them either at the end of the abstract or as parts of the bibliographic reference. These details need not be in sentence form (for example, "15 references").

References

1. ANSI/NISO Z39.4-199X. *Proposed American National Standard Guidelines for Indexes and Related Information Retrieval Devices.*
2. ANSI/NISO Z39.19-1993. *Guidelines for the Construction, Format, and Management of Monolingual Thesauri.* Bethesda: NISO Press, 1994.
3. Wahl, R. A. Patent abstracts. In *Official Gazette of the United States Patent and Trademark Office.* 862(3): 653-54; 1969. [Updated periodically in issues of the *Official Gazette,* and in *Manual of Patent Examining Procedure,* Section 708.01(b). Available from Superintendent of Documents, Washington, DC 20402.]

Selected Readings

Monographs

Borko, H. and C.L. Bernier. *Abstracting Concepts and Methods.* New York: Academic Press, 1975.

Cleveland, D.B. and A.D. Cleveland. *Introduction to Indexing and Abstracting.* 2nd Edition. Englewood, CO: Libraries Unlimited, 1990.

Collison, R.L. *Abstracts and Abstracting Services.* Santa Barbara, CA: A.B.C.-Clio, Inc., 1971.

Cremmins, E.T. *The Art of Abstracting.* 2nd Edition. Arlington, VA: Information Resources Press, 1994.

Lancaster, F.W. *Indexing and Abstracting in Theory and Practice.* Champaign, IL: Graduate School of Library and Information Science, 1991.

Maizell, R.E., J.F. Smith, and T.E.R. Singer. *Abstracting Scientific and Technical Literature.* New York: Wiley-Interscience, 1971.

O'Connor, B.C. *Explorations in Indexing and Abstracting: Pointing, Virtue, and Power.* Englewood, CO: Libraries Unlimited, 1996.

Rowley, J.E. *Abstracting and Indexing.* 2nd Edition. London: Clive Bingley Limited, 1988.

Tibbo, H. R. *Abstracting, Information Retrieval and the Humanities: Providing Access to Historical Literature.* Chicago: American Library Association, 1993.

Quality

Ashworth, W. Abstracting as a fine art. *Information Scientist.* 7(2): 43-53, 1973.

Hartley, J. Improving journal abstracts (current research in technical communication). *Technical Communication.* 42(2): 333-334, 1995.

Haynes, R.B. More informative abstracts: current status and evaluation. *Journal of Clinical Epidemiology,* 46(7): 595-597, 1993.

King, R.A. A comparison of the readability of abstracts with their source documents. *Journal of the American Society for Information Science.* 27(2): 118-121, 1976.

Kowitz, G.T., et al. From ERIC source documents to abstracts: A problem in readability. Presented at the Rocky Mountain Education Research Association, Tucson, AZ, November 29, 1973, ED0086243.

Tenopir, C., P. Jacso. Quality of abstracts. *ONLINE.* 17(3): 44-55, 1993.

Guidelines

Borko, H. and S. Chatman. Criteria for acceptable abstracts: A survey of abstractors' instructions. *American Documentation.* 14(2): 149-160, 1963.

Cortelyou, E. The abstract of the technical report. *Journal of Chemical Documentation.* 32(10): 532-33, 1955.

Haynes, R.B., C. D. Mulrow, E.J. Heath, D.G. Altman, and M.J. Gardner. More informative abstracts revisited. *Annals of Internal Medicine.* 113(1): 69-76, 1990.

Hayward, R.S., M.C. Wilson, S.R. Tunis, E.B. Bass, H.R. Rubin, and R.B. Haynes. More informative abstracts of articles describing clinical

practice guidelines. *Annals of Internal Medicine.* 118(9): 731-737, 1993.

Tibor, K. A hypertext tutorial on abstracting for library science students. *Journal of Education for Library and Information Science.* 36: 170-173, 1995.

McGirr, C.J. Guidelines for Abstracting. *Technical Communication.* Second Quarter, 2-5, 1978.

Weil, B.H., I. Zarember, and H. Owen. Technical-abstracting Fundamentals. II. Writing principles and practices. *Journal of Chemical Documentation.* 3(2): 125-132, 1963.

Cognitive Processes

Endres-Niggemeyer, B. A procedural model of an abstractor at work. *International Forum on Information and Documentation.* 15: 3-15, 1990.

Molina, M.P. Documentary abstracting: Toward a methodological model. *Journal of the American Society for Information Science.* 46(3): 225-234, 1995.

Structure of and Content in Abstracts

Arndt, K.A. The informative abstract. *Archives of Dermatology.* 128 (1): 101, 1992.

Broer, J.W. Abstracts in block diagram form. *IEEE Transactions on Engineering Writing and Speech.* 14(3): 64-67, 1971.

Herner, S. Subject slanting in scientific abstracting publications. In *International Conference on Scientific Information, Washington, D.C., Proceedings,* Vol. 1. Washington, DC: National Academy of Science-National Research Council, pp. 407-427, 1959.

Lancaster, F.W., and S. Herner. Modular content analysis. *Proceedings of the American Documentation Institute.* 1: 403-405, 1964.

Liddy, E.D. Discourse-level structure in abstracts. *Proceedings of the Annual Meeting of the American Society for Information Science.* 24: 138-147, 1987.

_____ . The discourse-level structure of empirical abstracts: An exploratory study. *Information Processing and Management.* 27(1): 57-81, 1991.

Manning, A.D. Abstracts in relation to larger and smaller discourse structures. *Journal of Technical Writing and Communication.* 20(4): 369-387, 1990.

Rennie, D., and R. M. Glass. Structuring abstracts to make them more informative. *Journal of the American Medical Association.* 266(1): 116-117, 1991.

Salager-Meyer, F. Discoursal flaws in medical English abstracts: A genre analysis per research and text-type. *Text.* 10(4): 365-384, 1990.

_____ . Medical English abstracts: How well are they structured? *Journal of the American Society for Information Science.* 42(7): 528-531, 1991.

Trawinski, B. A methodology for writing problem structured abstracts. *Information Processing and Management.* 25(6): 693-702, 1989.

Vaughn, D.K. Abstracts and summaries: some clarifying distinctions. *The Technical Writing Teacher.* 18(2): 132-141, 1991.

Standards

Tibbo, H.R. Abstracting across the disciplines: A content analysis of abstracts from the natural sciences, the social sciences, and the humanities with implications for abstracting standards and online information retrieval. *LISR.* 14(1): 31-56, 1992.

Weil, B.H. Standards for writing abstracts. *Journal of the American Society for Information Science.* 21(5): 351-358, 1970.

Information Retrieval

Fidel, R. The possible effect of abstracting guidelines on retrieval performance of free-text searching. *Information Processing and Management.* 22(4): 309-316, 1986.

_____ . Writing abstracts for free-text searching. *Journal of Documentation.* 43(1): 11-21, 1988.

Tibbo, H.R. [See under Standards, above.]

Glossary

Wellisch, H.H. *Abstracting, Indexing, Classification, Thesaurus Construction: A Glossary.* Port Aransas, TX: American Society of Indexers, 1996.

APPENDIX
Examples of Abstracts

(This appendix is not part of the American National Standard Guidelines for Abstracts, ANSI/NISO Z39.14-1997. It is included for information only.)

The format of these examples is generally similar to the format used in many access publications: the bibliographic citation appears before the text of the abstract. Alternative orders are illustrated in Section VI. The abstracts are shown as published with the exception that, when appropriate, first or second sentences were edited slightly to conform to the style guidelines in Section 7.4 of this standard.

I. Informative Abstracts

Example A.

Harm, Deborah L.; Zografos, Linda M.; Skinner, Noel C. Changes in compensatory eye movements associated with simulated stimulus conditions of spaceflight. Aviation, Space, and Environmental Medicine 64(9): 820-26; 1993.

Compensatory vertical eye movement gain (CVEMG) was recorded during pitch oscillation in darkness before, during, and immediately after exposures to the stimulus rearrangement produced by the Preflight Adaptation Trainer (PAT) Tilt-Translation Device (TTD). The TTD is designed to elicit adaptive responses that are similar to those observed in microgravity-adapted astronauts. The data from Experiment 1 yielded a statistically significant CVEMG decrease following 15 min of exposure to a stimulus rearrangement condition where the phase angle between subject pitch tilt and visual scene translation was 270 deg; statistically significant gain decreases were not observed following exposures either to a condition where the phase angle between subject pitch and scene translation was 90 deg or to a no-stimulus-rearrangement condition. Experiment 2 replicated the 270-deg-phase condition from Experiment 1 and extended the exposure duration from 30 to 45 min. Statistically significant additional changes in CVEMG associated with the increased exposure duration were not observed. The adaptation time constant estimated from the combined data from Experiments 1 and 2 was 29 min.

Example B.

Fliegel, Frederick C. The low-income farmer in a changing society. University Park, PA: Pennsylvania State University, Agriculture Experiment Station; 1966; Bulletin 731. 39p.

To identify some major differences among low-income farmers, and to delineate the group that represents the real core of the persistently poor, data were obtained from 189 farm operators representing a stratified random sample in Fayette County, Pennsylvania, in 1957. The five main categories of individuals identified were: (1) the aged, (2) the physically handicapped, (3) the farm operator primarily oriented to non-farm opportunities, (4) the farm operator oriented to commercial agriculture, and (5) the farm operator oriented to subsistence agriculture. The characteristics of the core of low-income subsistence farmers who normally do not respond to either welfare or economic-development efforts were examined in greater detail. It was found that they: (1) retained traditional values while having lost many traditional subsistence skills, (2) failed to respond to greater agricultural efficiency and productivity efforts because commercial success was not highly valued, (3) placed extreme emphasis on neighborliness and friendliness as their primary goals, and (4) must respond to an attempt to change prestige orientation if their cycle of poverty is to be broken.

Example C.

Baresel, D. [and others]. Tungsten carbide as anode material for fuel cells. Angewandte Chemie International Edition in English. 10(3): 194-95; 1971.

Stationary potentiostatic current-voltage curves for tungsten carbide and Raney platinum electrodes of equal size in the electrochemical oxidation of 6 M formaldehyde in 3 M sulphuric acid at 70°C showed that tungsten carbide was superior in the potential range of interest for fuel cell anodes. Current densities after 3 h were 650 mA/g of tungsten carbide using formaldehyde, 500 mA/g using hydrogen, and 160 mA/g using formic acid. Graph.

Example D.

Takahasi, Taro; Mao, Ho Kwang; Bassett, W. A. Lead: X-ray diffraction study of a high-pressure polymorph. Science. 165(3900): 1352-53; 1969.

An X-ray diffraction study of lead under pressure has shown that the face-centered cubic structure transforms to the hexagonal close-packed structure at room temperature and a pressure of 130 ± 10 kbar. The volume change for the transformation is -0.18 ± 0.06 cm^3/mol.

Example E.

McCluskey, James J.; Parish, Thomas S. A comparative study of cognitive skills in learning hypercard by right-brain dominant, left-brain dominant, and mixed-brain dominant students. Education. 113(4): 553-55; 1994.

In the present study 24 undergraduate students were found to be left-brain dominant (N=15), right-brain dominant (N=3), or mixed-brain dominant (N=6). Subsequently, these students were taught how to design/develop HyperCard stacks. The findings generally supported the notion that right-brain dominant individuals outperformed their left-brain and mixed-brain dominant counterparts. Future studies are encouraged to survey greater numbers of subjects in order to reduce some statistical limitations imposed on the present study from surveying a small number of students.

Example F.

McManus, I. C.; Cheema, B.; Stoker, J. The aesthetics of composition: a study of Mondrian. Empirical Studies of the Arts. 11(2): 83-94; 1993.

Subjects carried out a paired comparison experiment in which they were asked to make a preference judgement between a computer facsimile of an original Mondrian painting, and a modified version of the same picture in which the proportional relations of the compositional lines had been modified by a relatively small amount. Subjects were significantly better than chance expectations in their preference for the original Mondrians, suggesting that these paintings may encapsulate some universal principle of compositional order which can be detected by subjects.

Example G.

Veteto, Stephen George. A linguistic analysis of selected sayings of Jesus as representative of an independent source of the Gospels. Mid-America Baptist Theological Seminary; 1993. 232p. Dissertation.

The source critical issue regarding the legitimacy of the hypothetical Q document is examined. A debate among scholars in recent years has centered around the sources behind the Synoptic Gospels and, in particular, whether a Q document is needed to solve the source question.

The focus of this work is to utilize two distinct aspects of linguistics (literary patterns, such as chiasmus and inclusio, and discourse analysis) and apply them to the study of the source issue. Selected passages in Matthew, Luke, and Q are investigated, then analyzed against established criteria to formulate a conclusion regarding the viability of a literary document labelled Q.

Significant data uncovered in this dissertation includes: (1) Matthew and Luke utilize chiasmus on a regular basis, while the Q passages contain very few; (2) Matthew employs inclusio frequently while Luke and Q do not employ this rhetorical device as regularly; (3) The opening words of Q's pericopae do not agree in the parallel passages, but frequently agree within each pericope; (4) Matthew, Luke, and Q exhibit semantic and thematic unity in sections larger than individual pericope; (5) Matthew and Luke indicate peaking within discourses and pericopae in a more extensive fashion than Q, but Q does utilize peaking.

Conclusions established from the data regarding the viability of Q being a written document were not consistent. Chiastic structures are not present in Q and discredit the literary unity of Q. Data concerning inclusio, questions, and the use of conjunctions was inconclusive, while semantic and thematic links and discourse analyses support the existence of a written Q document. This work did not produce an unequivocal argument for or against Q existence.

Example H. Informative abstract for an overview document.

Seiler, J. A. Diagnosing interdepartmental conflict. Harvard Business Review. 41(5): 121-32; 1963.

Resolution of interdepartmental conflicts that decrease productivity may require structural reorganization to reduce authority-prestige ambiguity and internal social instability, or may require intergroup training and counseling to reduce point-of-view conflicts, or both. A thorough study is needed of the goals and environment of the organization as a whole. Experience (cited in numerous case histories) has demonstrated that three conditions must be established to reduce these interdepartmental conflicts. Each group must have internal social stability, including common interests and promotion opportunities. Groups in close contact must share external values through common training and point of view. Authority, as

indicated by work flow and control, must follow prestige lines to be legitimate.

Example I. Structured abstract.

Rask, Kimberly J. [and others]. Obstacles predicting lack of a regular provider and delays in seeking care for patients at an urban public hospital. Journal of the American Medical Association. 271(24): 1931-33; 1994.

Objective: To determine the correlation among obstacles to medical care, lack of a regular source of care, and delays in seeking care.

Design: Cross-sectional survey of patients presenting for ambulatory care during a 7-day period. Multiple logistic regression models were used to identify obstacles independently associated with outcome variables.

Setting: Urban public hospital.

Patients: A total of 3897 disadvantaged and predominantly minority patients.

Main Outcome Measures: Lack of a regular source of medical care and delay in seeking medical care for a new problem.

Results: The majority (61.6%) of patients reported no regular source of care. Of 2341 patients reporting a new medical problem, 48.4% waited more than 2 days before seeking medical care. No health insurance (adjusted odds ratio [OR], 2.2; 95% confidence interval [CI], 1.89 to 2.61), no transportation (OR, 1.44; 95% CI, 1.23 to 1.70), exposure to violence (OR, 1.21; 95% CI, 1.08 to 1.45), and living in a supervised setting (OR, 1.50; 95% CI, 1.00 to 2.25) were independent predictors of lack of a regular source of care. No insurance (OR, 1.24; 95% CI, 1.02 to 1.51), no transportation (OR, 1.45; 95% CI, 1.19 to 1.77), and less than a high school education (OR, 1.22; 95% CI, 1.08 to 1.49) were independent predictors of delaying care for a new medical problem.

Conclusions: Obstacles in addition to lack of insurance impede provision of medical care to disadvantaged patients. The adoption of universal health care coverage alone will not guarantee access to appropriate medical care.

II. Indicative Abstracts

Example A.

Southworth, Michael. Theory and practice of contemporary urban design. Town Planning. 60(4): 369-402; 1989.

The field of urban design in the United States, and how it is changing were evaluated, primarily through study of urban design plans. The research examines the goals, environmental quality concerns, analytical content, analytical methods, degree and type of public involvement, implementation techniques, theoretical foundations, and impacts of 70 urban design plans for 40 towns and cities in the United States prepared between 1972 and 1989. Comparisons are made with similar plans prepared between 1960 and 1972. Recommendations are made for education and professional practice.

Example B.

Leira, Bernt J. Multivariate distributions of maxima and extremes for Gaussian vector-processes. Structural Safety. 14: 247-65; 1994.

A new class of multivariate extensions of probability distributions related to local maxima and extremes for scalar Gaussian processes are considered. Joint statistics of the radius vector magnitude and the corresponding direction vector constitute the basis for the present approach. The asymptotic behavior of the distributions is also investigated. The influence from basic process characteristics on the shape of the density functions are studied. Application of the extreme value distributions for evaluation of reliability is discussed. Numerical results are presented for a specific example. Finally, the relevance of the so-called expected extreme hypersurfaces is illustrated in connection with a given design formulation.

Example C.

Grossman, G. Dust transport in transmission and distribution lines. Schiff Hafen. 22: 736; 1970 August.

The effect of pressure on the transport velocity of dust in gas pipelines is considered, including such factors of the total process as the effect of weight and friction forces on the dust particle; speed limit of particle fall as a function of its diameter and the characteristics of the gas stream; thickness of the laminar layer on "dunes" formed on the pipe bottom; and speed of gas in this layer. Correlations developed were verified experimentally.

Example D.

Black, S. Organization of small laboratory. 1968. Fall meeting paper of the Society for Experimental Stress Analysis. San Francisco, CA. 14p.

The day-to-day operation of a small mechanical-testing laboratory engaged primarily in experimental stress analysis is discussed. Emphasis

is placed on the training of personnel, availability of modular test equipment and facilities, and the systematic organization of materials and procedures.

Example E.

Van der Elst, M. Dutch equipment for the chemical process industry. Chim. Ind. (Milan). 53(5): 526-27; 1971.

The manufacture in the Netherlands of equipment for the petrochemical and chemical process industries is discussed. Topics covered are heat exchangers, evaporators, heaters, distillation apparatus, pumps, compressors, furnaces, pressure vessels, and gas tanks.

Example F.

Hayashi, T. Residual reduction and desulphurization by I.F.P Hydro Treatment. Sekiyu Gakkai Shi. 14(3): 195-97; 1971.

The main features are discussed of the pretreatment designed to improve the product quality and catalyst life in the Institut Francais du Pétrole hydrodesulphurization process.

Example G.

Yates, Stanley. The baroque guitar: Late Spanish style as represented by Santiago de Murcia in the "Saldívar Manuscript" (1752), with three recitals of selected works by Bach, Rak, Brouwer, Hummel, Gnattali and others. University of North Texas; 1993. 192p. Dissertation.

The late Spanish baroque guitar style is studied as represented in the *Saldívar Manuscript*, the recently rediscovered companion volume to Santiago de Murcia's five-course guitar tablature *Passacalles y obras de guitarra* of 1732.

The musical content of the manuscript is discussed according to the chronology and origin of the *diferencia* ground plans (which include genres imported from France, Italy and the New World as well as Spanish popular songs and dances), their harmonic, melodic and metric characteristics, and the resulting confluence of galant and national style.

The major portion of the study is given over to an analysis of Murcia's guitar style. This includes detailed discussions of *rasquado* and *punteado* variation technique, the technical and musical (phraseological and articulative) implications of his fingerings for the left hand, *campanela* technique, national and mixed ornamental styles, and tuning.

Example H.

Ousterhout, Robert. The temple, the sepulchre, and the martyrion of the Savior. Gesta. 29(1): 44-53; 1990.

Examines the ideological relationship of the Holy Sepulchre and the Temple of Jerusalem, as manifest in writings, ceremonies and architecture. A possible relationship between the form of the Tomb aedicula at the Holy Sepulchre and early representations of the Ark of the Covenant is explored. Related to this, the origin and significance of the term *martyrion* in reference to the site of the Holy Sepulchre is discussed. Concludes with comments on the interpretation of the symbolic language of architecture.

Example I.

Pellecchia, Linda. Architects read Vitruvius: Renaissance interpretations of the atrium of the ancient house. Journal of the Society of Architectural Historians. 51(4): 377; 1992.

Survey of efforts of Renaissance architects, humanists, and translators to interpret Vitruvius's description of the ancient Roman house, particularly the form and function of the atrium. Notes their reliance on written sources in the absence of archaeological evidence; examines definitions of the word atrium by Flavio Biondo and others; and focuses on the various interpretations of Alberti, Francesco di Giorgio, Fra Giocondo, Calvo and Raphael, Cesariano, and Daniele Barbaro and Palladio.

III. Indicative-Informative Abstracts

Example A.

Douglas, K. Sv. The impact of developments in shipping technology on shipping operational costs. Sjoefarts Tidning. 66: 22; 1970 July.

The modern shipbuilders must anticipate future needs for marine transportation, specialize as to type of ship and size, and develop the required product on the soundest possible commercial basis. Low capital cost is important, but the builder's share of total cost is relatively small, and economies in shipbuilding therefore have limited effect on overall costs. Efficient design for both technical performance and low maintenance costs is of great importance, with the following items especially deserving of attention: ship form; propeller design; main propulsion units; bulbous bow; automation; cargo handling; paint systems and corrosion control; maintenance; and the modeling of

engine-room systems. Mathematical methods are necessary for determining whether increased costs for innovations will be justified by operational savings, and examples of computer programs developed by B.S.R.A. (British Ship Research Association) for this purpose are cited.

Example B.

Abel, Emily K. Benevolence and social control: advice from the Children's Bureau in the early twentieth century. Social Service Review. 68(1): 1-19; 1994.

The correspondence in 1914-15 between Julia Lathrop, chief of the Children's Bureau, and a working-class woman is examined in order to help illuminate a growing debate about the effect of state welfare programs on women. Although Lathrop imposed her own definition on her client's needs, helped to undermine women's confidence in their own knowledge and skills, and perpetuated the gender division of labor, she also responded to this correspondent as a unique individual who helped to restore the dignity that other members of the community had eroded.

Example C.

Tamir, Pinchas. The curriculum potential of Darwin's Theory of Evolution. Interchange. 24 (1/2): 73-86; 1993.

"Unity" and "diversity" are best reconciled by Darwin's Theory of Evolution. Two major dilemmas related to the study of evolution are described. The first, concerning pedagogy, can be solved by teaching the topic at an elementary level in the middle school so that the theory may serve as an "advanced organizer" and returning with in-depth study in the last two years of high school. The second, concerning faith, is a sensitive issue. Some successful approaches are discussed. The place of Darwin's Theory in the all-elective high school biology curriculum is described as well. The role of the theory regarding explanations is especially highlighted.

IV. Abstracts of Monographs and Chapters

Example A. Whole monograph. A single abstract may suffice if the monograph deals with a homogenous subject.

Illinois State Board of Vocational Education and Rehabilitation. Part-time industrial cooperative education, a manual for administrators and coordinators. Springfield, IL; 1967; Series B, Bulletin 198. 165p.

Programs of vocational education are described that are designed to provide high-school youth with opportunities to receive on-the-job training in a trade or industrial occupation, of his or her choice, by cooperatively utilizing the resources of the school and community. This revised edition presents the basic philosophy, activities, methods, and operational procedures of industrial cooperative education programs. The topical areas include: (1) establishing an industrial cooperative education program; (2) the high-school administrator's responsibilities; (3) the teacher-coordinator; (4) the teacher-coordinator begins his work; (5) selection and placement of student learners; (6) related instruction, coordination, reports, and records; (7) advisory committees: their organization and function; (8) program evaluation in industrial cooperative education; and (9) aids for the teacher-coordinator.

Examples B and C. Chapters. A separate abstract is needed for each chapter if a monograph covers many different topics or is a collection of articles by different authors, as in the case of proceedings of a meeting or symposium. Abstracts of chapters should be as informative as possible, but should at least indicate what is covered.

Example B. Indicative-informative-type chapter abstract.

French, J. L. Psychology and the gifted child. New Outlooks in Psychology. New York: New York Philosophical Library; 1967: 306-336.

A critique of the concept of giftedness concludes that the gifted may be divided into the intellectually capable who are not necessarily academically able, the academically able who must be intellectually capable, the student with hidden talent brought out by opportunity and desire rather than tests, and the highly creative student with minimal academic capacity (IQ of 115) plus an added factor. In a discussion of the special needs of the intellectually superior student for time to think, listen, dream, and converse, it is contended that while added activities should not be forced on the student, he should not be permitted a merely average performance. A discussion of the equity of special programs for gifted students considers advantages and disadvantages of intelligence grouping and acceleration of gifted students. Encouragement of personal independence and autonomy is deemed essential to the

productive and innovative development of the gifted. Problems of social adjustment encountered by gifted children include social acceptability and the need to excel without seeming to work very hard. There is a paucity of data on gifted girls and women. The problems of underachievement and dropouts with high IQ scores are discussed.

Example C. Indicative-type chapter abstract.

Sigwait, P. Cyclic sulphides. Frisch, K. C. Ring-Opening Polymerization. New York: Marcel Dekker; 1969: 191-217.

Ring-opening polymerization of alkylene sulphides, episulphides, thioaldehydes, cyclic disulphides, and mixed oxygen-sulphur ring compounds are reviewed, with 83 references. Anionic polymerization, anionic copolymerization, cationic polymerization, coordinated ionic polymerization, and radical polymerization of episulphides, cyclic polymers of thioaldehydes, and the polymerization of oxathiolanes and cyclic disulphides are discussed.

V. Less Common Types of Abstracts

Example A. Critical abstract.

Rosensweig, R. E.; Beecher, N. Theory for the ablation of fiberglass-reinforced phenolic resin. American Institute of Aeronautics and Astronautics Journal. 1:1802-1809: 1963.

The theory of ablation of carbon-contaminated glass, extended from the char-layer theory, gives 38% underprediction of results of the experiment. A thorough error analysis was not included. Spalding and Scala have treated similar problems.

Example B. Slanted abstract. Different versions oriented toward the interests of the plastics, rubber, and protective clothing and aircraft industries.

Stoll, A. M.; Chianta, M. A., Munroe, L. R. Flame-contact studies. Transactions of the ASME, Series C, Journal of Heat Transfer. 86(3): 449-456; 1964.

Example B-1. Slanted for the plastics industry.

HT-1, an experimental heat resistant polyamide textile fiber of du Pont, was exposed to flame impingement in a Meker burner with a flame temperature of 1200 C. Destruction temperature of fabrics of 3, 4, 5, and 6 oz/sq yd weight was 427 C, as measured radiometrically. Burn-through occurred in 3-6 seconds, depending on the weight.

Example B-2. Slanted for the rubber industry.

Transient heat flow through a two-layer assembly of RTV-20, a silicone rubber manufactured by General Electric, backed by simulated skin, was measured using a flame-impingement calorimeter. A three-second temperature rise for rubber layers of 0.95, 0.55, and 0.52 mm, measured within the backing layer, agreed excellently with theoretical values.

Example B-3. Slanted for the protective clothing and aircraft industries.

Experiments on the destruction temperature and thermal characteristics of fabrics under flame impinged heating are of great significance to the design of clothing for burn protection. In particular, they help explain why, in experiments with flight overalls, greatly increased burn protection is offered by double-layer clothing as compared to single-layer suits.

VI. Varying the Order of Elements

Example A. Informative abstract with conventional order of elements (purpose, methodology, results, and conclusions).

Thomas, W. O.; Campbell, J. A. Nematode control in sweet potatoes. Miss. Farm Res. 31(3): 7; 1968.

Because damage to sweet potatoes by root-knot nematodes makes it difficult for some growers in Mississippi to produce marketable grades, the Truck Crops Branch Experiment Station in 1967 conducted off-station tests with nematocides (including fumigants) on three- or four-row replicated and randomized field plots known to be infested with the nematodes. Both known and experimental nematocides were employed. The commercial fumigants Vorlex, Dow W-85, and DD significantly increased yields and quality in the treatments of rows. Vortex or Dow W-85 should be applied at 2.5 gal/acre and DD at 9 to 10 gal/acre, 8 to 10 in deep in the center of the row, 14 to 30 days prior to planting. Broadcast fumigation was also effective, but required higher fumigant levels. Among the experimental solid nematocides, Bayer 68138 and Dasanit showed promise. More information is deemed necessary than was obtained from this one-season field test.

Example B. Informative abstract of the same document with findings-oriented arrangement of elements (major results and conclusions, supporting details, other findings, and methodology).

Thomas, W. O.; Campbell, J. A. Nematode control in sweet potatoes. Miss. Farm Res. 31(3): 7; 1968.

The yield and quality of sweet potatoes can be increased by soil fumigation or the addition of solid nematocides in some areas of Mississippi. The commercial fumigants Vorlex, Dow W-85, and DD significantly increased yields and quality in the treatments of rows. Vorlex or Dow W-85 should be applied at 2.5 gal/acre and DD at 9 to 10 gal/acre, 8 to 10 in deep in the center of the row, 14 to 30 days prior to planting. Broadcast fumigation was also effective, but required higher fumigant levels. Among the experimental solid nematocides, Bayer 68138 and Dasanit showed promise. This study of control of root-knot nematodes was conducted by the Truck Crops Branch Experiment Station in 1967 on three- and four-row replicated and randomized field plots known to be infested with the nematodes. More information is deemed necessary than was obtained from this one-season field test.

Example C. Indicative abstract of the same document.

This type of abstract is included here only to demonstrate the validity (usefulness) of preparing an informative abstract when the document permits it, as defined in Section 6.

Thomas, W. O.; Campbell, J. A. Nematode control in sweet potatoes. Miss. Farm Res. 31(3): 7; 1968.

Problems caused by root-knot nematodes in growing sweet potatoes in Mississippi are discussed. Experiments with commercial and experimental nematocides, conducted in 1967 by the Truck Crops Branch Experiment Station, are described. Methods of application including imbedding in rows and broadcasting are compared. Results are given for specific nematocides, including the commercial fumigants Vorlex, Dow W-85, and DD, and the experimental solid nematocides Bayer 68138 and Sasanit.

VII. Position of the Bibliographic Citation for Abstracts in Access Services

Example A. Access abstract preceded by full bibliographic reference. While this order is conventional, it may slow access to actual information; even the document's title is usually subject-oriented rather than findings-oriented.

Anderson, John; Efron, Leonard; Wong, S. Kuen. Martian mass and Earth-Moon mass ratio from coherent S-band tracking of Mariners 6 and 7. Science. 167 (3916): 277-79; 1970.

Range and Doppler tracking data from Mariners 6 and 7 have been used to obtain values for the ratio of the mass of the Earth to that of the Moon which are in substantial agreement with those determined from other Mariner and Pioneer spacecraft. There is an inconsistency of about 0.004% in values for the mass of the Moon determined from lunar trajectories. A gravitational constant for Mars of 42 828.48 ± 1.38 km^3/s, obtained on the basis of data collected during the 5 days prior to the closest approach of Mariner 6 to Mars, is in excellent agreement with the result obtained by tracking data of Mariner 4.

Example B. Access abstract followed by full bibliographic reference. This arrangement permits immediate presentation of the main findings of the document, an order particularly suitable for the findings-oriented arrangement of document-content elements (see example VI-B).

The ratios of the mass of the earth to the moon obtained from coherent S-Band tracking of Mariners 6 and 7 are in substantial agreement with those determined from other Mariner and Pioneer spacecraft. Range and Doppler tracking data from Mariners 6 and 7 yielded ratios having an inconsistency of about 0.004% in values for the mass of the Moon determined from lunar trajectories. A gravitational constant for Mars of 42 828.48 ± 1.38 km^3/s, obtained on the basis of data collected during the 5 days prior to the closest approach of Mariner 6 to Mars, is in excellent agreement with the result obtained by tracking data of Mariner 4. Anderson, John; Efron, Leonard; Wong, S. Kuen. Martian mass and Earth-Moon mass ratio from coherent S-band tracking of Mariners 6 and 7. Science. 167 (3916): 277-79; 1970.

Example C. Access abstract preceded by the title of the document, but with the remainder of the bibliographic reference suitably displayed after the text of the abstract. This arrangement presents the subject of the document as stated by its author, and then immediately presents the document's information. Indenting or using distinctive typefaces (or both) gives quick access to the remainder of the bibliographic citation.

Martian mass and Earth-Moon mass ratio from coherent S-band tracking of Mariners 6 and 7.

Range and Doppler tracking data from Mariners 6 and 7 have been used to obtain values for the ratio of the mass of the Earth to that of the

Moon which are in substantial agreement with those determined from other Mariner and Pioneer spacecraft. There is an inconsistency of about 0.004% in values for the mass of the Moon determined from lunar trajectories. A gravitational constant for Mars of 42 828.48 ± 1.38 km^3/s, obtained on the basis of data collected during the 5 days prior to the closest approach of Mariner 6 to Mars, is in excellent agreement with the result obtained by tracking data of Mariner 4.

Anderson, John; Efron, Leonard; Wong, S. Kuen. Science. 167 (3916): 277-79; 1970.