ANATOMY OF A RESEARCH REPORT

Introduction

S#	Purpose	Example
1	Establish that a research **field** is **broadly** useful and significant	
2	**Clarify** for non-experts	
3	**Itemize utility** of research **area**	
4	Articulate a problem **area**	
5	Specify a **research focus**	
6	Present **corroborating overview**	
7	Identify a **gap** in related research	
8	Describe **report purpose**	
9	Summarize **method**	
10	Summarize **findings**	

ANATOMY OF A RESEARCH REPORT

Methods

S#	Purpose	Example
1	Rephrase **broad aim** and **method**	
2	**Justify** method	
3	Offer procedural **overview**	
4	Summarize procedures	
5	Specify methodological **details**	
6	Provide evidence that **care** was taken in procedures	
7	**Confront** methodological **concern/s**	
8	Summarize **overall** findings	

ANATOMY OF A RESEARCH REPORT

Results

S#	Purpose	Example
1	Return focus to l**arge** research **context**	
2	Situate **specific** aim against **first data graphic**	
3	Present **most striking result/s**	
4	Specify **data analysis procedure/s** for most striking result/s	
5	Present **additional** selected results and data analysis procedures	
6	Mention **outlying or problematic** findings, stressing **solution** or other ways forward	
7	Introduce **implications and applications** of research	

ANATOMY OF A RESEARCH REPORT

Discussion

S#	Purpose	Example
1	Return focus to **research context**	
2	Recall **gaps in earlier studies**	
3	Restate **most striking result**	
4	**Develop** most striking result	
5	Highlight **second** most-important finding	
6	Present **implications** of two most important findings	
7	Return to third, fourth, and/or fifth strong achievement/s	
8	Summarize all result **implications,** including possible **applications**	
9	Mention **constraints** that may influence further research	
10	Set direction of **broad further research**	

ANATOMY OF A RESEARCH REPORT

Introduction

S#	Purpose	Example
1	Establish that a research **field** is **broadly** useful and significant	Biodegradable properties of polylactide (PLA) **extend vast practical and economic benefits** to civil and structural engineers, builders, manufacturers, **and consumers**.
2	**Clarify** for non-experts	A corn-derived polymer, PLA is **produced by straightforward** five-step high-lactide polymerization.
3	**Itemize utility** of research **area**	Of **extensive use** in engineering materials, PLA is also **much investigated** for its tensile properties in biomedical **applications such as** flex-tubing.
4	Articulate a problem **area**	**However**, it has **repeatedly** been found too **weak and unstable** for commercial use.
5	Specify a **research focus**	Strengthening PLA and other polymers **may be possible** by incorporating highly rubberized particles into a composite.
6	Present **corroborating overview**	Espe et al., Sydney, and Lula have created such composites via blending, melding, and tarring techniques, respectively. Through these and other investigations, the properties of rubberized copolymers are increasingly well understood.
7	Identify a **gap** in related research	**Nevertheless**, comparative strength, flexibility, and overall effectiveness of these products are **still unclear.**
8	Describe **report purpose**	This paper presents **criteria for evaluating** rubberized copolymers, first, and, second, **describes a novel polymer blend** incorporating extant hydrocarbon rubbers.
9	Summarize **method**	Step-increased PLA-hydrocarbon rubbers were **produced** along a continuum of polymer blends and **tested** for strength and flexibility.
10	Summarize **findings**	Across twelve out of fourteen **2012 International Institute of Engineers (IIE) Materials Measurement criteria**, combined mechanistically distinct polymerizations form copolymers having significantly improved properties.

ANATOMY OF A RESEARCH REPORT

Introduction Terminology

S#	Purpose	Example
1	**Establish that a research field is broadly useful and significant** A basic issue in, A central problem of, A classic problem of, A challenging area of, A common issue with regard to, A considerable number of, A current problem in, A measurable increase in, An essential element of, An increasing number of, A key technique in, A primary cause of, A striking feature of, Numerous investigations into, Of growing interest, Possible benefits of, Widespread concern over, In recent decades, It is widely recognized that, It is well known that, Has attracted much attention	A current concern in population management focuses on … Over recent decades, numerous experiments have established that … Over 95% of all pancreatic cancers implicate … It is generally accepted that steel frame joints are … Nanocrystalline film is attracting widespread interest in fields as varied as … Low-dose radiation is generating considerable research interest in its … Heat transfer plays a crucial role in …
2	Clarify for non-experts	
3	**Itemize utility of research area** Addressed, Analyzed, Applied, Argued, Attempted, Calculated, Categorized, Carried out, Compared, Concluded, Conducted, Confirmed, Correlated, Defined, Demonstrated, Described, Detected, Determined, Developed, Discovered, Established, Evaluated, Examined, Explained, Explored, Extended, Found, Focused on, Formulated, Generated, Identified, Illustrated, Implemented, Indicated, Introduced, Investigated, Measured, Modeled, Monitored, Noted, Observed, Obtained, Pointed Out, Presented, Produced, Proposed, proved, Provided, Put forward, Recognized, Reported, Reviewed, Showed, Solved, Studied, Suggested, Tested, Undertook, Utilized	Conclusive data on pair dispersion were reported by… Initial trials focused on identifying causes of … Storm severity has been linked to … Algorithms for these applications were presented by… Early data were found and interpreted by … These phenomena have been monitored, most notably, by …
4	Articulate a problem area	
5	Specify a research focus	
6	Present corroborating overview	
7	**Identify a gap in related research** Alternative, Ambiguous, As yet unclear, Calling for re-examination, Confined to, Demanding clarification, Do not always guarantee, Doubtful, Fail to, Fall short of, Far from, Impractical, Incompatible with, Incomplete, Inconclusive, Inconsistent, Ineffective, Insufficient, It remains to, Largely unsuccessful, Limited, Miscalculated, Misleading, Misjudged, Misunderstood, Neglected, Not addressed, Not apparent, Not entirely successful, Not explained, Obstacle to a full account, Overlooked, Problematic, Questionable, Redundant, Remains unclear, Restricted, Results in an unacceptable, Requiring clarification, Sub-optimal, Suffering from, Technically demanding, The need remains to, Unanswered, Unaddressed, Uncertain, Unclear, Uneconomical, Unfounded, Unlikely, Unnecessary, Unproven, Unsuccessful, Unsupported	As yet unaddressed is the problem of … An alternative approach would … In such cases, high absorbance renders this an impractical option … The need for efficient, effective methods remains … To date the function of these proteins is unclear … Such a protocol is far from optimal

Introduction Terminology (cont'd)

S#	Purpose	Example
8	**Describe report purpose** Our aim, Our goal, Our intention, Our objective, Our purpose, This approach, This overview, This paper, This report, This study will Account for, Address, Analyze, Apply, Argue, Attempt, Attend to, Calculate, Categorize, Carry out, Characterize, Compare, Conclude, Conduct, Confirm, Correlate, Define, Depict, Demonstrate, Describe, Detect, Determine, Develop, Discover, Discuss, Establish, Evaluate, Examine, Explain, Explore, Extend, Find, Focus on, Follow up on, Formulate, Generate, Identify, Illustrate, Implement, Indicate, Introduce, Investigate, Measure, Model, Monitor, Note, Observe, Obtain, Offer, Organize, Outline, Point to, Portray, Present, Produce, Propose, Prove, Provide, Provide an account of, Put forward, Recognize, Replicate, Report, Review, Show, Solve, Study, Suggest, Test, Undertake, Utilize	Particular attention will be paid to … The purpose of this study is to present a useful, straightforward, successful technique for … This paper introduces a method and materials that mimic … The present study tests the hypothesis that … Following its investigations of pedal-powered vehicles, the Beto group will report …
9	Summarize method	
10	Summarize findings	

Methods

S#	Purpose	Example
1	Rephrase broad **aim** and **method**	The current investigation **sampled** and **analyzed** ten sites **to characterize** current groundwater chemistry in the London Basin.
2	**Justify** method	Southeastern sites were selected for measurement **because** rich medieval-through latter-day **baseline data exist** for the area, enabling **comparative** criterion-based evolutionary **groundwater** studies.
3	Offer procedural **overview**	A **total** of 60 samples was collected and analyzed for isotopic presence.
4	**Summarize** procedures	Samples were **collected** in sterile 25 ml brown opaque glass bottles filled to the lip then tightly **sealed** to prevent contamination. Filled bottles were shipped directly for **analysis** to three separate laboratories.
5	Specify methodological **details**	At Oxford University, samples 1-20 were submitted to **Conchita-Nena methods miniaturized** for small sample sizes. Strain Two samples 21-40 were **measured for isotopic precipitation** in our own laboratory, while Strain Three was shipped to London University's Groundwater Spectrometry facility for in-depth analysis by accelerated **mass spectrometry.**
6	Provide evidence that **care** was taken in procedures	All materials, including catchment bowls, sample bottles, and tubing, were composed of **sterile** glass, **sterile** stainless steel, or both, and **all handling and analytic procedures followed methods codified by the European FAB Institute** in Gdansk, Poland. This approach yields a precipitate through addition of BaCl22H2O; the resulting product may be **safely and easily washed, handled, stored, and retrieved.**
7	**Confront** methodological **concern/s**	While it was **initially feared** that a single sample had been put **at risk** of CFC **contamination** from .75-second exposure to plastic, **follow up measurements showed no variability among samples.**
8	Summarize **overall** findings	At both positive and negative net charges, all samples in Strains One-Three **showed low pH decisively in alkaline range**, as is consistent with previous findings.

Methods Terminology

S#	Purpose	Example
1	**Rephrase broad aim and method** Tests, Samples, Trials, Experiments, Equipment, Materials, Models, Instruments were Acquired from, Carried out, Chosen to, Conducted for the purpose of, Collected from, Collected with the aim of, Derived from, Devised to, Investigated for, Modified from, Modified to, Obtained by, Obtained from, Performed by, Performed to, Supplied by, Used as supplied	Impact tests used in this investigation were derived from … The current experiments were performed in a greenhouse to obtain … Substrates obtained from the Molds Research center were used to… Material characterized here was an alloy designed to … Topographical examinations were carried out to…
2	Justify method	
3	**Offer procedural overview** Adapted, Added, Adopted, Adjusted, Applied, Arranged, Assembled, Assumed, Attached, Calculated to, Calibrated to, Carried out, Characterized, Collected, Combined, Computed, Consolidated, Constructed, Controlled, Converted, Created, Designed, Derived, Discarded, Distributed, Divided, Eliminated, Employed, Estimated, Exposed, Extracted, Filtered, Formulated, Generated, Immersed, Inhibited, Incorporated, Included, Inserted, Located, Maintained, Maximized, Minimized, Modified, Normalized, Obtained, Operated, Optimized, Plotted, Positioned, Prepared, Quantified, Recorded, Regulated, Removed, Repeated, Restricted, Retained, Sampled, Scored, Selected, Simulated, Stabilized, Tracked, Transferred, Treated, Varied, Utilized	
4	Summarize procedures	
5	Specify methodological details	
6	**Provide evidence of care in procedures** According to, As described by, As described in, As explained by, As explained in, As in, As proposed by, As proposed in, As reported by, As reported in, As suggested by, As suggested in, Because, By doing, Chosen to, Details are supplied in, Details are supplied by, For the purpose of, In accordance with, In an attempt to, In order to, In the interest of, It was possible to, Offers a means of, One way to avoid, Our aim was to, Provides a means to, Selected on the basis of, So as to, Thereby permitting, Therefore, This allows, To achieve, To allow, To assess, To avoid, To compensate for, To confirm, To determine, To enable, To enhance, To ensure, To establish, To facilitate, To guarantee, To identify, To improve, To include, To increase, To limit, To minimize, To obtain, To optimize, To overcome, To permit, To prevent, To provide, To reduce, To take advantage of, Using the method of, To validate, Which allows, With the intention of	
7	Confront methodological concern/s	
8	Summarize overall findings	

Results

S#	Purpose	Example
1	Return focus to **large** research **context**	In **earlier studies** of fixed monitors, vehicular travel incurred lower CO exposure than foot travel. **Previous research,** most notably on the part of Milt et al, describes median ranges at least 11% lower than among pedestrians.
2	Situate **specific** aim against **first data graphic**	In this instance, **models calculated emission rates** by extrapolation from CO exposure frameworks first proposed in 1995 by Katz and since validated by some sixty studies worldwide. **Here, TEC forecasts are compared** to in situ roadside CO concentrations measured hourly at 200 urban-site fixed monitors. **Table 3 depicts** data obtained from both these systems in parallel.
3	Present **most striking result/s**	As shown, TEC-predicted mean concentrations are **identical** to those measured in situ. Forecast morning and evening peak-time journey CO emissions **precisely anticipated** real-time data. **In one arresting instance**, TEC foresaw H11-4 values unusually lower than in later periods H5-8.
4	Specify **data analysis procedures** for most striking result/s	Quantitative high-flow **Carmela analyses** ascertaining modeling uncertainties were applied every quarter hour to the TEC data stream. Based on **measured and calculated standard deviations** over all periods, median model certainty exceeded by 12.19% the acceptability limit 80% most recently obtained by Baxter.
5	Present **additional** selected results and data analysis procedures	**In further findings**, Figure 3 indicates results of real time v. modeled values by **stepwise regression**. In general, coefficients for both readings and forecasts were **close to the mean**. **Modal** CO readings confirm that relationships are closer when levels are taken together over time.
6	Mention **outlying or problematic** findings, stressing **solution** or other ways forward	**Appendix** Three shows results of all readings and the CET with which they are most closely correlated. **While these frequencies imply** model terms **might** have been included by **chance** alone, all but one of twenty readings were **highly significant (P<0.001).**
7	Introduce **implications and applications** of research	**In sum**, experimental results attest that TEM offers more sensitive traffic impact assessment than traditional fixed-site measurement. Significantly improved CO exposure predictive rates than have been possible to date constitute **a persuasive argument for widespread** urban TEM installation.

Results Terminology

S#	Purpose	Example
1	**Return focus to large research context** Broadly, Broadly speaking, Comparatively speaking, Frequently, Generally, Generally speaking, In many cases, In most cases, In the main, In the majority of cases, In this field, In this research area, Many studies suggest, On the whole, Overall, Some research suggests	
2	**Situate specific aim against first data graphic** (Neutral) As discussed, As hypothesized, As mentioned, As outlined previously, As posited, As predicted in earlier sections, As reasoned, As speculated, Here, It having been hypothesized, It having been reasoned that, It was suggested earlier, To confirm, To corroborate, To effect, To further investigate, To further probe, To refine, To reiterate, To sharpen, To test, This investigation sought (Confident) As anticipated, As expected, As predicted, As reported by, Compare well with, Concur, Confirm, Consistent with, Contrary to, Corroborate, Disprove, Inconsistent with, In keeping with, In line with, Is in good agreement with, Is not dissimilar, Parallel to, Similarly, Similar to, Unlike, Match, Refute, Reinforce, Support, Validate, Verify As can be seen in Figure 1, As detailed in Figure 1, As depicted in, As evident in, As given by, As illustrated by, As indicated in, As is evident in, As listed in, As presented in, As reported in, As shown in, As may be found in, As may be observed in, As summarized in, (Fig.1) Figure 1 contains, Figure 1 demonstrates, Figure 1 displays, Figure 1 presents, Figure 1 provides, Figure 1 reports, Figure 1 represents, Figure 1 summarizes, From Figure 1 it may be seen, Inspection of Figure 1 demonstrates, (See Figure 1)	In general, mean coefficients are negative … On the whole, confidence intervals show … In most cases, levels of weight loss … It was suggested previously that effective stress paths may be used to define binding surface … As it had been reasoned that tests would pinpoint continuous crack propagation … As this work seeks to establish rate constants … Experiments such as this one are known to
3	**Present most striking result/s** (Neutral) Accelerated, Affected, Changed, Decreased, Differs, Dropped, Equals, Expanded, Fell, Increased, Is constant, Is delayed, Is equal to, Is faster, Is higher, Is identical, Is lower, Is present, Is unchanged, Is uniform, Matched, Occurred, Peaked, Preceded, Reduced, Remained, Remains constant, Remains unchanged, Rises, Varies (Interpreted) Abundant, Acceptable, Adequate, A great deal of, As many as, Almost, Appreciable, Appropriate, As few as, As little as, Brief, By far, Clear,	

	Comparable, Considerable, Considerably, Consistent, Distinct, Dominant, Dramatic, Easily, Equivalent, Essentially, Evident, Excellent, Exceptional, Excessive, Extensive, Extreme, Fair, Few, General, Good, High, Immense, Imperceptible, Important, Inadequate, Interesting, Largely, Low, Mainly, Marginal, Marked, Mild, Minimal, Negligible, Notable, Noticeable, Numerous, Obvious, Overwhelming, Poor, Powerful, Quick, Radical, Rapid, Remarkable, Satisfactory, Scarce, Severe, Sharp, Significant, Similar, Simple, Slight, Small, Smooth, Somewhat, Steep, Striking, Strong, Substantial, Sudden, Sufficient, Suitable, Surprising, Too, Unexpected, Unusual, Upwards of, Valuable, Very, Virtually, Well over, Well under	

4	Specify data analysis procedures for most striking result/s	
5	**Present additional selected results and data analysis procedures** (Frequency) Continuously, Each time, Invariably, On each occasion; As is customary, Continually, Customarily, Generally, Normally, Usually; Regularly, Repeatedly; Commonly, Frequently, Often, Largely, For the most part; More often than not; As often as not; At Times, On Irregular occasions; Sporadically, From time to time, Occasionally; Infrequently, Rarely, Seldon; At no time; On no occasion; Never (Causality) Accompany, Account for, Activate, Affect, Arise from, Ascribe to, Associate with, Attribute to, Bring about, Cause, Come from, Contribute to, Consequently, Create, Derive, Effect, Elicit, Give rise to, Generate, Hence, Influence, Initiate, Is a factor in, Is caused by, Is present when, Is related to, Link, Originates with, Produce, Relates, Results from, Results in, Stem from, Thus, Therefore, Triggers, Yield	
6	**Mention outlying or problematic findings, stressing solution or other ways forward** (No) Almost, Although in essence, Approximately, At least, Essentially, Frequent, Future efforts, Immaterial, In future, In large part, In line with, In principle, Insignificant, In some ways, Largely, Loosely, Minor, More or less, Negligible, Now in preparation, Now in progress, Now underway, Only, Partially, Partly, Practically, Quite, Rather, Reasonably, Similar, Slight, Somewhat, To some extent, Underway, Unimportant, Virtually, With adjustments, With alterations, With modifications	Hourly transducer readings updated the data pool … Continuous, uninterrupted computation is made possible by … Advantages of this protocol include … Steel construction negated problems of water absorption … Because both probes employed ATNLA, parallel readings could be obtained … All aluminum alloys were modified without exception

	(Yes) Accurately, Advantageously, All, Always, Appropriately, Avoid, Because, Carefully, Completely, Constantly, Continually, Continuously, Correctly, Daily, Directly, Each, Every, Exactly, Firmly, Fully, Hourly, Identical, Immediate, Individually, In each instance, In every instance, Negate, Never, Purposefully, Precisely, Reliably, Repeatedly, Rigorously, Smoothly, So that, Successfully, Suitably, Tightly, Thoroughly, Uniformly, Vigorously, Well, Without exception	

7	**Introduce implications and applications of research** It appears that, It appears likely that; It is likely that; It is probable that; It is reasonable to suppose that, It may be accepted that; It may be assumed that, It may be inferred that, It may be said, It may be that, It may be thought that; It seems probable that, The assembled data suggest that, The collected data point to the likelihood, The evidence points to the probability, There is a clear possibility, There is a good possibility, There is a strong possibility, There is evidence to indicate, This implies, This may imply, There is a tendency toward	

Discussion

S#	Purpose	Example
1	Return focus to **research context**	**Prior research has documented** many effects of stress reduction intervention. Andres and Lo, for instance, recently reported that 2,000 patients in two-week programs self-described improved functioning.
2	Recall **gaps in earlier studies**	**Regrettably**, the large part of these studies are either **anecdotal, do not treat** diagnosed disorders, or both.
3	Restate **most striking result**	**In contrast**, this highly intensive, empirically evaluated multisensory program **increased QoL across twelve indices** including mental health.
4	**Develop** most striking result	**More effective skills resulted** in virtually all patient categories than by indirect information media.
5	Highlight **second** most-important finding	**In addition**, improvements noted in this study arose **independently of SES, age, gender, and education.**
6	Present **implications** of two most important findings	**Thus it appears** that benefits gained from targeted intervention **address needs across an unusually wide subject range.**
7	Return to third, fourth, and/or fifth strong achievement/s	**Moreover**, this is the first study, to our knowledge, investigating long-term treatment of clinically diagnosed stress-related disorders.
8	Summarize all result **implications,** including possible **applications**	**In conclusion**, study results provide **compelling support for program design** specifically counteracting stress exacerbating many medical disorders and increasing recidivism.
9	Mention **constraints** that may influence further research	As **funding and staff limitations prohibited follow up measures** to assess result longevity over the critical post-treatment period of one year, **further efforts will target** continuity and retention.
10	Set direction of **broad further research**	**In future**, the developed protocol **should prove adaptable** to at-risk parties identified through schools, hospitals, clinics, homeless shelters, prisons, drug treatment programs, and unemployment centers. Further, no need exists to restrict programs to a single target. At correctly controlled patient-advisor ratios, treating multiple clients **may well lead to** broad treatment arrays incorporating benefits of, or even resembling total effects of, residential programs.

Discussion Terminology

S#	Purpose	Example
1	**Return focus to research context** As discussed, As mentioned, As outlined, As predicted, As reasoned, As reported, It is known, It was predicted that, In that vein, Once again, Our aim having been to, Our intention having been to, Our purpose, The aim, This work, To that end, To reiterate, Toward the purpose	In earlier studies, attempts were made to, The aim of the present tests was to construct a continuous propagation theory, This work seeks to establish a method for benzoxaxine synthesis. To that end,
2	**Recall gaps in earlier studies** Analogous to, Broadens, Challenges, Comparable to, Compares well with, Compatible with, Confirms, Contradicts, Consistent with, Corresponds to, Corroborates, Differs from, Extends, Expands, identical to, In contradiction to, In contrast with, In good agreement with, In line with, Lends support to, Mirrors, Modifies, Offers insight into, Provides support for, Refutes, Remarkably similar to, Significantly different from, Supports, Unlike, Verifies	
3	**Restate most striking result** (Positive) Accurate, advantageous, appropriate, attractive, beneficial, better, clear, comprehensive, convenient, convincing, correct, cost effective, easy, effective, efficient, encouraging, evident, exact, feasible, flexible, important, low lost, novel, productive, realistic, relevant, robust (Strong) Compelling, crucial, dramatic, excellent, exceptional, exciting, ideal, invaluable, outstanding, powerful, remarkable, striking, textbook, undeniable, unprecedented	
4	**Develop most striking result** (Neutral) Accelerated, Affected, Changed, Decreased, Differs, Dropped, Equals, Expanded, Fell, Increased, Is constant, Is delayed, Is equal to, Is faster, Is higher, Is identical, Is lower, Is present, Is unchanged, Is uniform, Matches, Occurs, Peaks, Precedes, Reduces, Remains, Remains constant, Remains unchanged, Rises, Varies	
5	Highlight second most-important finding	
6	**Present implications of second most important finding** Assist to, Compare well with, Confirm, Corroborate, Effective, Enable, Enhance, Ensure, Facilitate, Help to, Improve, Improved, Is able to, May lead to, Obviate the need for, Offer understanding of, Outperform, Prove, Provide a framework for, Provide insight into, Provide first evidence for, Remove the need for, Represents a new approach to, Reveal, Rule out, Solve,	

	Succeed in, Support, Simplify, Stabilize, Straightforward, Strong, Successful, Superior, Useful, Valid, Valuable, Yield	
7	Return to third, fourth, and/or fifth strong achievement/s	

8	**Summarize all result implications, including possible applications** A need for, An application, A strong starting point, At present, Care should be taken to, Encouraging, Fruitful, Further investigations, Further study will, Further research is underway to, Further work will, Holds promise, In future, It is advised that, Implement, It would be beneficial, Possible direction, Potential, Promising, Recommended, Relevant to, Remains to be, Represents, Research opportunities, Should be explored, Should be replicated, Should be undertaken, Should be validated, Should be verified, The next stage, Utilizes, Worthwhile	
9	Mention constraints that may influence further research	
10	**Set direction of broad further research** Eventually, It is predicted that, It may be expected, In future, Our common efforts will produce, Soon it will be possible, This field will yield, Ultimately, Within a decade	

Littera Scripta Manet
The Written Word Abides